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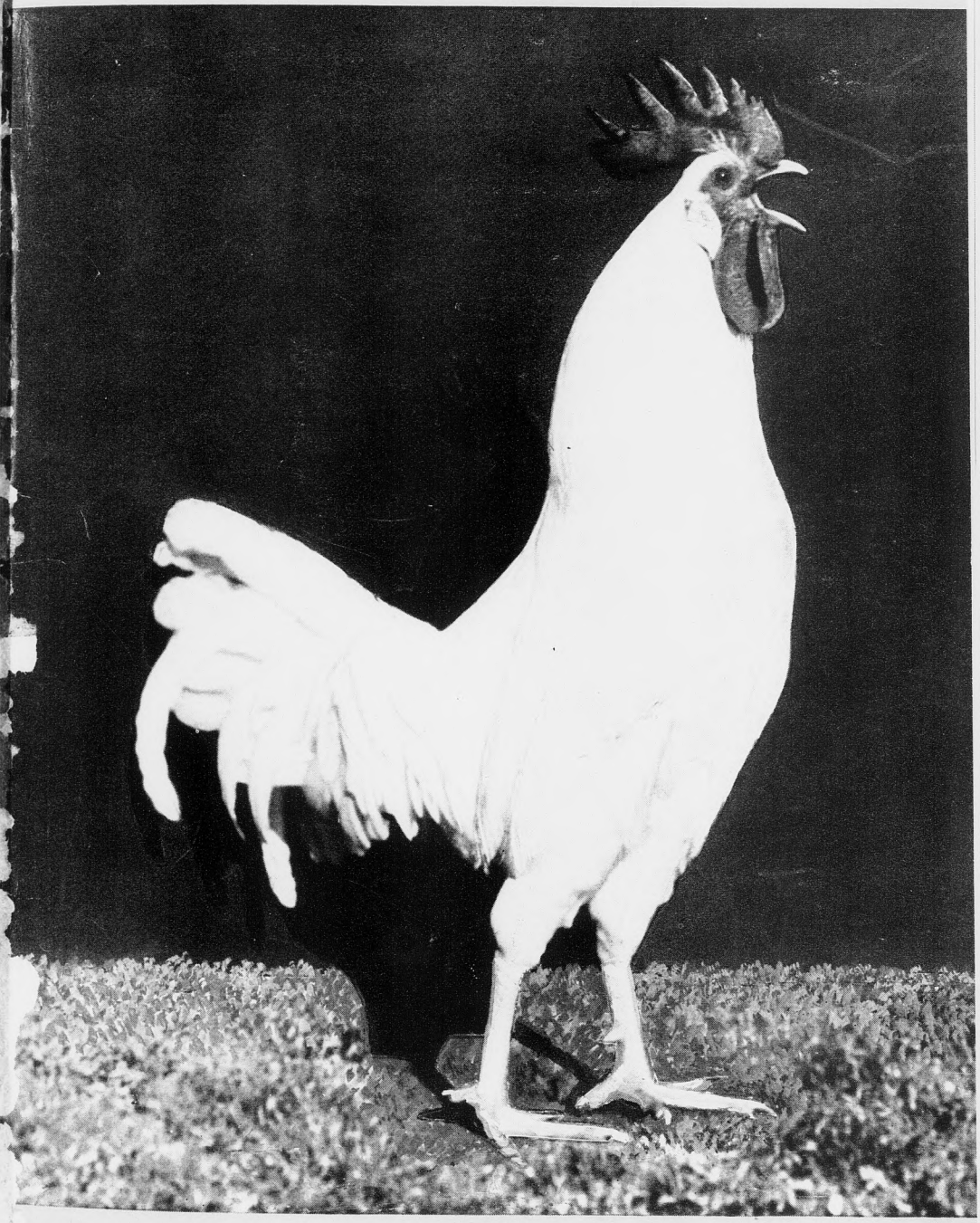
MARYLAND

1941 POULTRY YEARBOOK



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MARYLAND STATE POULTRY COUNCIL

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FREE Our 32-page Textbook of Poultry Disease Prevention, "Science Safeguards Your Flock Against Disease." Comprehensive, clear, easily understood by any reader, and a priceless aid to all poultry raisers. Write for Your Copy Today.

Upon the Potency of all Vaccines Depends the Permanent Protection of Your Flock. Our 100-dose bottles of Fowl Pox Vaccine and Fowl Laryngotracheitis Vaccine contain 40 Milligrams (Mgs.) of dried vaccine, and our 500-dose bottles contain 200 Mgs. of dried vaccine. Our 100 dose bottle of Pigeon Pox Vaccine contains 80 Mgs., and our 500 dose bottle contains 400 Mgs. of dried vaccine.

Never attempt to economize by buying cheap vaccines! Dosage lower than that which we specify cannot secure positive and permanent immunization for your birds **Always read the labels on bottles,** carefully check the dosage, and make sure that the vaccine is made from eggs, **and not from chickens.** This is a Federal requirement. Chick-Embryo Origin Egg-Propagated Vaccines are free from contamination of all transmissible poultry diseases.

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The 1941 MARYLAND *Poultry* YEARBOOK

Published by
The Maryland State Poultry Council

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Greetings

TO THE POULTRY PEOPLE OF MARYLAND

For the third consecutive year, it is my pleasure as Governor of Maryland to extend greetings and felicitations to over forty thousand poultry producers in Maryland.

As the second most important branch of agriculture in Maryland the poultry industry is a strong and growing industry. At the same time, I understand that about three or four million dollars' worth of market eggs, dressed poultry, hatching eggs, and baby chicks are brought into the state every year from outside sources. This means that there is considerable room for improvement within the state and during my tenure of office I am anxious to see that everything possible is done to improve the lot of our farmers and commercial poultrymen.

I sincerely hope that 1941 may prove to be a very prosperous year for all branches of the poultry industry.

HERBERT R. O'CONOR.

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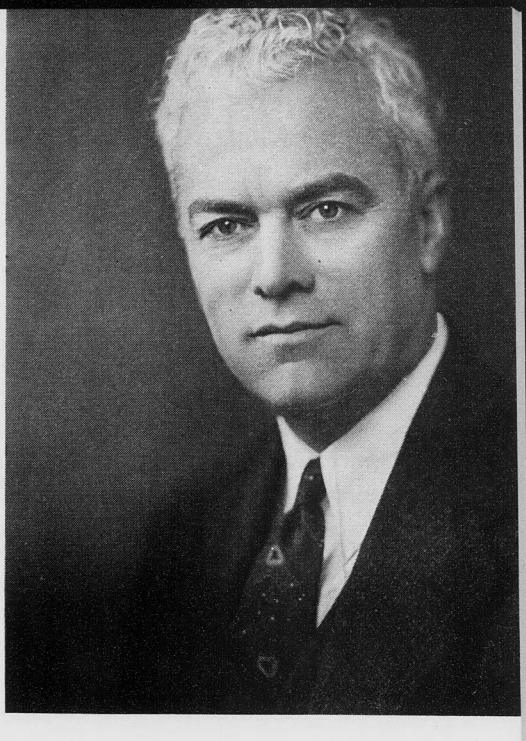

Greetings

TO THE POULTRY PEOPLE OF MARYLAND

It is a pleasure, indeed, to extend greetings to the many thousands of poultry producers, distributors, and those engaged in allied poultry interests in Maryland.

As President of the University of Maryland, I want to take this opportunity to congratulate the officers, directors, and members of the Maryland State Poultry Council for the constructive leadership shown during recent years in helping to solve the problems of the industry.

Efficiency in the production of market and hatching eggs, baby chicks, and poultry meat is of paramount importance if producers are to make the greatest profits. Efficiency in the marketing of poultry products is equally if not more important. The first step in developing our efficient marketing methods is to improve the quality of our products. I hope, therefore, that everything possible will be done to market products of the highest possible quality so that consumer demand for Maryland poultry products will be increased.

The University of Maryland is anxious to cooperate in every way possible in improving conditions within the poultry industry of the state, and I hope that 1941 will bring further progress and prosperity.

H. C. BYRD.

POTS OF GOLD

At the End of

The Maryland Poultry Rainbow

Maryland poultrymen, like those in other states, are always hoping for better times and want to make more money out of their poultry enterprise. A lot of poultrymen don't do much about it, however, except to sit and hope. They hope the rainbow will bring the pots of gold to them.

There is always money to be made in the poultry business, provided one has the knowledge and ambition to take advantage of the opportunities that lie ahead. The pots of gold are there but they can only be won by foresight and hard work.

In Maryland the average egg production per bird is estimated to be 110 eggs whereas in several other states it is over 150 eggs per bird. An increase of 10 eggs per bird per year in Maryland would yield a pot of gold amounting to $500,000 annually over and above what producers now receive. Maryland needs better bred stock.

Market egg producers in several northeastern states obtain an average of 7 cents per dozen more for their market eggs than Maryland producers. If Maryland producers improved the quality of their eggs and obtained 1 cent more per dozen they would receive $250,000 more egg income every year. That nice pot of gold could be won if Maryland producers would take better care of their summer eggs and do everything possible to market nothing but superior quality eggs.

There's a pot of gold of $125,000 annually awaiting Maryland hatchery operators if they will secure an increase of 5 per cent in the hatchability of the eggs they incubate. The adoption of a rigid culling system and a sound selection and breeding program by hatchery flock owners, plus officially pullorum-tested flocks and thorough sanitation at the hatchery would win the pot.

A 10 per cent decrease in growing stock, laying flock, and turkey mortality would save Maryland poultrymen $100,000 annually. Sanitation and sensible flock management are worth their weight in gold.

Maryland poultry consume over 300,000 tons of feed every year. Through development of strains more efficient in the utilization of feed, there would be an annual saving of $600,000 in the poultrymen's feed bill. To win this huge pot of gold, rapid growing strains and better balanced diets must be developed.

More efficient poultrymen and more efficient poultry constitue the rainbow of the industry.

The Maryland State Poultry Council

The Maryland State Poultry Council is a statewide organization of producers whose primary concern is the improvement of poultry conditions within the State.

The Council realizes that the competition in producing market eggs, hatching eggs, chicks, broilers, turkeys and other poultry products is increasing greatly as the years go by and that in order to stay in business and make a good living, Maryland poultrymen must carry on their operations more efficiently than ever. It is not a question of more poultry in Maryland but more efficient production that counts.

The Council is anxious that an enviable reputation shall be developed for Maryland hatching eggs, baby chicks, breeding stock, broilers, turkeys, market eggs and other poultry products.

The Council feels that consumers should be supplied with poultry products of superior quality, products the quality of which can be depended upon throughout the year. Eggs and poultry meat are perishable products and must be given the best of care on the farm and in transit to the consumer's table. Much educational work is carried on to accomplish this objective.

The elimination of waste while poultry products are in market channels and increased efficiency in marketing are other objectives of the Council.

The Council is heartened by the increased support it has received from the Governor of Maryland, the State Legislature, the Maryland Farm Bureau, the Maryland State Grange, the Maryland State Fair Board, and by the active cooperation in its educational program on the part of the University of Maryland.

The Council is greatly encouraged by the advances that have been made in the poultry industry during recent years and hopes that this Yearbook will do much to stimulate further improvements within the industry.

Broiler producers should use hoppers with reels to keep the growing chickens out of the feed after they are old enough to eat from the hoppers. This will help to control coccidiosis.

An infertile egg held for one day at a temperature of about 100°F deteriorates as much as if it were held in ordinary cold storage for about 5 to 6 weeks.

YOU CAN'T Lose with STONEMO GRANITE GRIT

IMPORTANT SUCCESSFUL POULTRYMEN AND TURKEY GROWERS USE AND RECOMMEND STONEMO GRANITE GRIT

H. J. Hardin
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High Hen
Ga. Contest

E. A. Lindstrom
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HERE are just a few of the many leading poultry breeders who have won highest 1939-40 contest honors who are consistent feeders and boosters of STONEMO Granite Grit.

STONEMO helps grow pullets with **Livability**—that can stand up under the high egg production demanded by Egg Laying Contests or commercial egg production.

STONEMO helps get more nutrition from the feed. Definite records show that it saves up to 20% in feed costs. Leading poultry breeders and turkey growers know these facts from experience. That is why they consistently feed and endorse STONEMO Granite Grit.

The necessity for the proper kind of grit is more important than some poultrymen suspect. DO NOT CONTENT YOURSELF WITH THE THOUGHT THAT ANY GRIT IS SUITABLE FOR POULTRY. IF YOU DO, THEN YOU ARE LIKELY TO BE DOING YOURSELF AND YOUR POULTRY A GRAVE INJUSTICE.

YOU CAN'T LOSE! STONEMO is sold on a money-back guarantee. Start feeding STONEMO without delay.

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Feed Prices

Dr. T. C. Byerly

Is the price of feed rising in your community? What difference does five cents a bag make to the poultryman? To the poultryman who keeps Leghorns, it means that every dozen eggs produced is increased in cost by 0.3 to 0.4 of a cent, depending on the rate of production. With the heavy breeds the increase in cost of producing eggs is from 0.4 to 0.5 cents per dozen, again depending on the rate of production.

Depending on the rate of production! ! The poultryman can do very little to control the price of feed but a great deal toward controlling rate of production. A nickel a bag, a half cent a dozen, these amounts seem insignificant. In relation to what can be done to reduce cost by increasing rate of production they are indeed small. More rigid culling and rearing pullets bred for egg production are essential when feed prices rise. Increasing the rate of laying from 25 per cent production to 50 per cent production will reduce the cost of producing eggs by 5 to 15 cents a dozen. The higher the price of feed, the more important is the rate of production, for the higher the price of feed the more you reduce cost by increasing production.—Dr. T. C. Byerly, Poultry Department, University of Maryland.

If An Egg Could Talk

If an egg could talk it might say:

I am an egg.

I am the embodiment of life and health.

I am nature's original package of vim, vigor, and vitality.

I am a perfect little mine of marvelous minerals.

I am the nearest approach to a balanced diet in the original package.

I am boiled, fried, poached, scrambled, shirred and omeletted.

I am the inevitable partner of fried ham, and inseparable companion of his brother bacon.

I am the blessing of breakfast; the leaven of luncheon; and the distinction of dinner.

I am the circulating currency of the country; the floating finance of the farmer; the answer to the ailments of the agriculturist.—Dept. of Agriculture, Ottawa, Canada.

Christie's NEW HAMPSHIRES Burst Forth FULL OF SPIZZERINKTUM

World's Largest Breeding Flock of

NEW HAMPSHIRES

Over 40,000 SPIZZERINKTUM Breeders

(All Pullorum Passed — No Reactors)

AMERICA'S MOST FAMOUS FOUNDATION STRAIN

Bred for Fast Growth, Complete Feathering, Early Maturity, Heavy Production, Big Brown Eggs, Highest Livability, Lowest Mortality

OVER 1,000,000 Chicks---OVER 2,000,000 Hatching Eggs SOLD in 1940

For Breeding-Flock Foundations, for Heavy Production, for Top-Grade Broilers and Roasters, and for the Highest Class Hatchery Trade

SPIZZERINKTUM New Hampshire, SPIZZERINKTUM Barred Plymouth Rock, and CHRIS-CROSS Barred Hybrid CHICKS and **HATCHING EGGS**, are now demanded by **Breeders, Hatcheries,** and **Producers** of Eggs or Market Poultry, that are striving to build up reputations for Supreme Quality and Reliability.

HATCHERIES that use **SPIZZERINKTUM Hatching Eggs** Exclusively in their incubators at all seasons are actually giving their gratified customers all the quality, dependability, and benefits that can be realized and enjoyed from a Modern Scientific Breeding Farm of the Highest Grade.

PRODUCERS of Eggs and Market Poultry who become familiar with Christie's SPIZZERINKTUM Quality and Service, find them indispensable as a permanent foundation on which to build up reputations for Quality and Reliability.

SPIZZERINKTUM CHICKS

come to you full of pep, Bright-eyed, High-Stepping, Ready to go! Nothing can stop them, if they receive the good care and treatment they deserve.

BUT WHAT IS SPIZZERINKTUM?
Well, Spizzerinktum is made up of three equal parts of those priceless essences, Vim, Vigor, and Vitality.

AND WHAT IS VIM?
Why, Vim is that rare quality of the Spirit which comes from Health, Pure Blood, and the Sheer Joy of Living!

WHAT, THEN, IS VIGOR?
Oh, Vigor, is of the Body and the Blood, directing strength to its proper use, perpetuating Life and Energy.

AND HOW ABOUT VITALITY?
Ah, that's the Vital Spark that animates the Universe! And when you compound Vitality with Vim and Vigor, you have Perfection—or "SPIZZERINKTUM," if you please, in the homely, expressive vernacular of our old New England Yankees.

SPIZZERINKTUM INTERNAL EGG QUALITY

Chemical and Biological Purity and Quality are bred into all SPIZZERINKTUM Eggs; and they are visible to the naked eye in high viscosity, texture, and color. All SPIZZERINKTUM Eggs to be sold for hatching, or used in the Christie incubators, are electrically candled and graded, with the most scrupulous and critical care, and the final proof of their quality is found in their superior hatchability and the supreme vitality of the chicks.

Hatches are coming off all the time at the Christie Farms, but orders for **SPIZZERINKTUM New Hampshire, SPIZZERINKTUM Barred Plymouth Rock,** and **CHRIS-CROSS Barred Hybrid CHICKS** and **HATCHING EGGS** are booked months in advance at all seasons. Nevertheless, customers can always obtain Chicks or Eggs in any quantity, at any time, merely by booking their orders in advance, like all the others. Then there are no misunderstandings, and no confusion in dates or shipments.

Write Today for FREE Illustrated Catalog and Price List

ANDREW CHRISTIE, Box 33, Kingston, N. H.

Requirements for Ideal Market Chickens

1. Lay enough eggs to be available for hatching at all seasons.

2. Attain a full complement of feathers by eight weeks of age.

3. Grow very rapidly during the first five to six months.

4. Fatness—a maximum amount stored early in growth, the major part of it in the muscle and under the skin, and very little or no internal (abdominal) fat.

5. Produce the greatest amount of flesh on the least feed.

6. Plump breasted—at all ages have a body conformation which is pleasing to the eye.

7. Uniformity in size, conformation and fatness at all stages of growth.

8. A maximum per cent of tender edible flesh—more meat, less bones.

9. External appearance—the desired skin color, smooth obscure feather follicles and no blisters on the keel.

10. Tender flesh—no evidence of stagginess in males prior to six months of age, a minimum amount of connective tissue between muscles of all stock.

11. Accurate and simple identification of male and female chicks at hatching.

12. Health—Dr. R. George Jaap, Oklahoma Experiment Station.

Body Weight and Egg Weight

Records kept on 2,283 Rhode Island Red pullets at the Massachussetts Experiment Station bring out the importance of maintaining body weight of laying birds during the winter months. These records show that a gain of a pound to a pound and a half in body weight from time of housing to the end of the laying year resulted in larger eggs during the winter months. Also pullets that gained in body weight during the winter months had the lowest mortality.

These results would indicate the importance of removing light-weight pullets not later than March 1 as an effective means of reducing mortality. The work also indicates the advisability of banding a representative lot of pullets at time of housing and weighing them once a month as a check on body weight.—J. C. Taylor, N. J. Extension Poultryman.

Factors That Caused Variations in Poultry Earnings

Labor income of 128 Connecticut poultry farmers who cooperated with the Farm Management Department in keeping accounts in 1938 averaged $1,281. The largest labor income was $6,560; the lowest was minus $1,274. The poultrymen with the largest earnings made $7,834 more than the man with the lowest income. The differences in earnings on these farms were largely due to variations in method of operation and farm organization.

The variations in earnings of $7,834 on these 128 farms can be accounted for, to a very large extent, in terms of (1) yearly egg production per bird, (2) fall egg production, (3) laying flock mortality, (4) labor efficiency, (5) overhead cost, and (6) volume of business.

The importance of securing efficiency in these six factors is illustrated by comparing the averages of these factors on the 15 most profitable and 15 least profitable farms. See the Table 1.

MEASURES OF FARM ORGANIZATION AND MANAGEMENT EFFICIENCY

TABLE I	Av. of 128 farms	15 most profitable farms	15 least profitable farms
Labor income	$1,454	$4,550	$ -218
Egg production per hen	175	185	166
Fall egg production (Oct. & Nov.)	25	30	23
Per cent laying flock mortality	9.8	8.2	12.7
Labor efficiency (Receipts per $1 labor cost)	$4.36	$6.16	$2.98
Overhead cost (Sales per $1 investment)	$.65	$.91	$.45
Volume of business	$7,127	$14,555	$4,845

A summary statement of the above table shows that the 15 most profitable farms as compared with the 15 least profitable farms averaged:

1. Nineteen eggs more per bird during the year.
2. Seven eggs more per bird during October and November.
3. Four and one-half per cent less hen mortality.
4. $3.18 more receipts per $1 labor cost or double the labor accomplishments.
5. Two times more sales per $1 investment.
6. Three times more gross sales per farm.

The important problem for every poultryman is to determine how improvements can be made on his farm. The solution to better incomes will vary to fit each particular situation. A sound procedure for all poultrymen to follow before making any adjustments in their farm business is to figure the probable effect that the specific change under consideration will have on cash receipts, expenses, and net income.

Of these six factors, only nine poultrymen were above average in all. Most poultrymen, or 119 of the 128 farms in this study, were below average in one or more of the six important factors that effect profits. For example, some are especially skilled in management and feeding practices which result in good egg production but tend to use more labor than needed in caring for the flock. The general rule is that poultrymen are efficient in some parts of the business but this efficiency is offset by poor results in other phases.

A well-rounded poultry business with fair efficiency in all six factors is essential in securing large earnings. The 128 farms in the study were grouped according to the number of the six profit factors in which they were above average efficiency. Nine farms were below average in all six factors and they secured an average labor income of $233 as compared with the labor income of $3,531 on the nine farms above average in all six factors.

The objective of this study has been to point out and analyze briefly the important factors that cause some poultrymen to secure good earnings and others poor earnings. It is hoped that this information will aid not only poultrymen who cooperated in keeping accounts, but many others, in making changes or adjustments that will improve earnings on their own farms. It must be remembered that no two farms are alike and that the solution to any problem varies depending upon the situation and condition existing on that particular farm.

Financial success on poultry farms depends upon two important phases—farm organization and method of operation. In order to secure good earnings on poultry farms it is essential to develop first a business organization of sufficient volume to enable one to secure full utilization of investment and labor; and second to do the job right—that is, keep disease at a minimum, and get good production distributed well throughout the year.—Prof. P. L. Putnam, Connecticut College of Agriculture.

The Maryland Poultry Improvement Plan is supervised by the Maryland Poultry Improvement Board, the industry representatives of which include: Harry H. Rieck, Preston, representing broiler producers; Mrs. W. W. Hopkins, Cordova, representing hatchery flock owners; William Blum, Bethesda, representing breeder hatcheries; Clarence Streett, Rocks, representing commercial hatcheries; John Moffett, Centerville, representing turkey growers.

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"Profit-bred" through Balanced Breeding

They live! Grow fast! Produce!

YOUR poultry profits depend on the chicks you buy. Through an 8-point Balanced Breeding program, which we have followed for 20 years, not one . . . . but every important money-making characteristic is bred into Hubbard's New Hampshires. Every chick is from our own strain, direct from the breeding source. All our trapnest work is done under the jurisdiction of R. O. P.

You get chicks that inherit generations of proved blood — chicks whose parents have made good. Big-bodied, strong, officially Pullorum passed, Hubbard chicks live, grow fast and mature early, become good layers of large-sized eggs. This year, try a flock and be sure! You can depend on Hubbard's New Hampshires. 30-day Full Satisfaction Guarantee. *Sexed day-old pullet and cockerel chicks available.* Rock Cross for broilers.

Our Catalog gives a full description of our farms and our breeding program. Write for your free copy.

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tells you how
they live, grow fast
produce!

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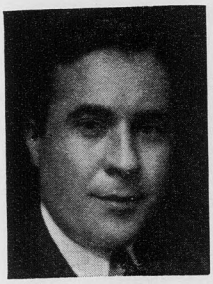


PROF. J. M. GWIN

The poultrymen of Maryland who have worked for the enactment and enforcement of the Maryland Fresh Egg Law, are now having their efforts rewarded by an enforcement program which is showing encouraging results in many parts of the state.

In recent months numerous egg marketing agencies have reported an increased demand from Maryland merchants for eggs of a quality that can be safely sold as fresh. A continuation of this condition is highly desirable but the extent of progress depends largely upon the ability of Maryland poultrymen to supply a sufficient quantity of high quality eggs.

Fresh egg laws divide eggs into classes of "fresh" and "non-fresh". The "fresh" eggs, which are of a dependable quality, naturally sell at a price well above those in the "non-fresh" group. Production conditions in Maryland make it difficult for producers to successfully compete in any but the fresh egg class due to the large number of low priced eggs coming into Maryland from farm flocks in the south and middle west.

Maryland producers have the advantage of nearness to market which will enable them to most successfully compete for this fast developing, better egg business of the state. It must be remembered, however, that extra effort is required to produce eggs of a quality that will move through normal market channels and be well above minimum requirements for fresh when purchased by the consumer.

Producers interested in improving their methods of producing and handling eggs may find some help in the suggestions listed below.

1. PRODUCE INFERTILE, CLEAN EGGS by removing males promptly after the breeding season and by providing clean litter and nesting material.

2. KEEP EGGS COOL in warm weather by gathering them at least 3 times daily and by promptly placing them in a cool, moist place, a temperature of not over 50° F. and a relative humidity of about 85 per cent being desirable.

3. SORT FOR SIZE AND COLOR. Separate into LARGE (24 ounce average); MEDIUM (21 ounce average); or SMALL (18 ounce average). Separate browns and tints from white-shelled eggs.

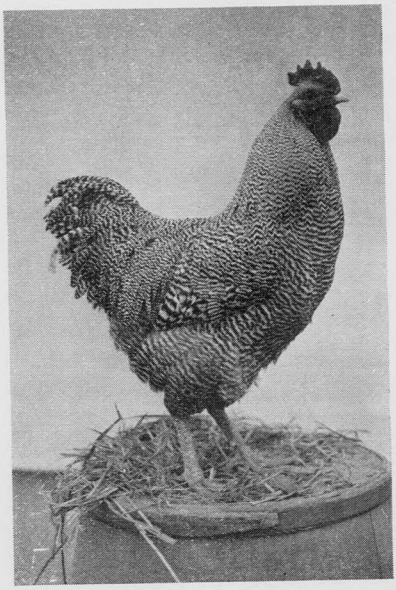
4. PACK EACH SIZE AND COLOR SEPARATELY in clean packing material.

5. MARKET NOT LESS THAN TWICE WEEKLY. En route to market be sure eggs are protected from roughness and extreme temperatures.—Prof. James M. Gwin, Poultry Department, University of Maryland.

Watering containers should be large enough and there should be enough of them to provide at least one quart of water daily for every 15 chickens during the first 6 weeks and thereafter for every 7 chickens.

A sanitary brooder house and dry litter are the best insurance against losses from coccidiosis.

Grave Responsibility Rests Upon the Hatchery Operator



In many respects the hatchery operator holds the key to further improvement of conditions in the poultry industry. Each succeeding year more and more of the chicks that are raised on farms are bought from hatcheries. This means that the hatchery industry has a greater influence than ever on the quality of farm flocks and on the returns secured from farm flocks. It follows, therefore, that conditions in the industry will improve in proportion to the improvements made by hatchery operators in producing chicks of superior quality.

Every hatchery operator should develop the best kind of a breeding program for all flocks supplying eggs to his hatchery. Culling the poor females out of the flocks is not half enough. Female breeders should be selected carefully and the greatest attention should be paid to the selection of males to be used as breeders. The average male has on the average about ten times as many progeny as the average female.

It would pay the hatchery operator several times over to purchase bred-to-lay males produced by R. O. P. breeders or others carrying on pedigree breeding. The males purchased should be secured from progeny-tested matings of superior males and outstanding females noted for rapid growth, early feathering, early sexual maturity, ability to lay at the rate of 70 per cent, nonbroodiness in the case of general-purpose breeds, and the ability to lay for at least ten months.

A hatchery operator could well afford to pay $10 for superior males. Chick buyers should more than double their money on the premium paid for chicks of superior quality secured from superior males.—Dr. Morley A. Jull, University of Maryland.

Well bred stock is the basis of profitable poultry husbandry.

The keeping of accurate records is an index of successful poultry management.

SAM RICE'S

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STRAIGHT NEW HAMPSHIRE DAY-OLD CHICKS

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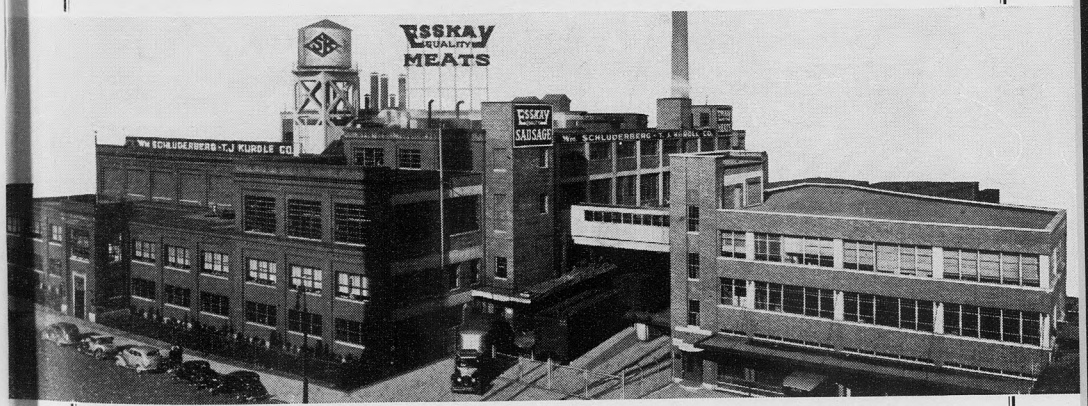

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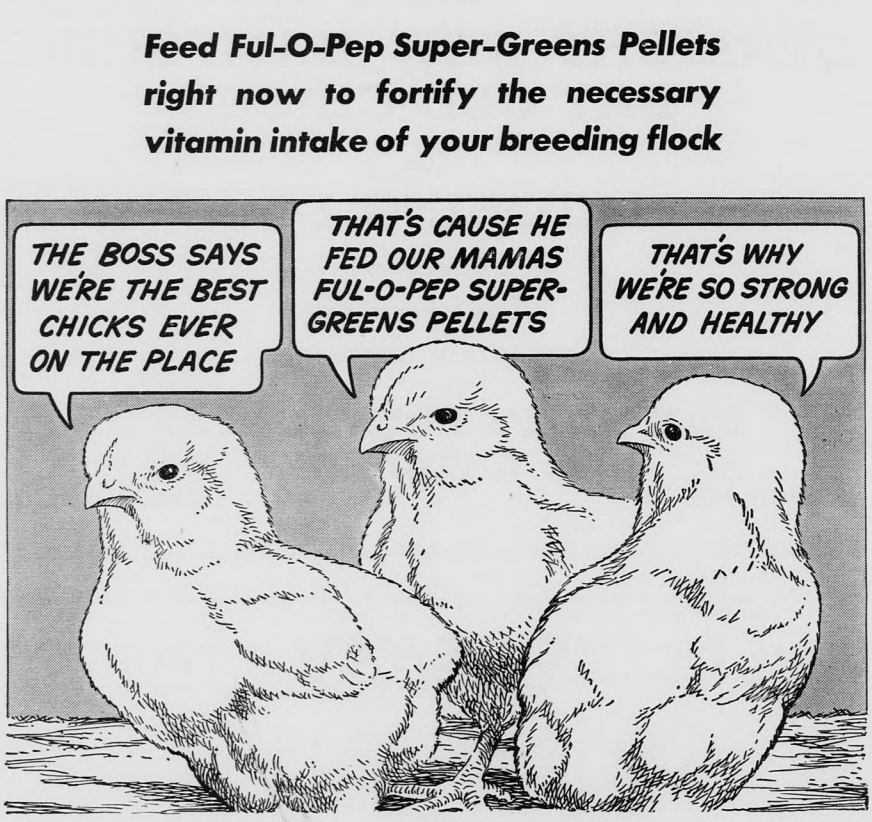
LET THESE NEW SUPER GREENS PELLETS HELP YOU PRODUCE SUPERIOR CHICKS IN 1941

Feed Ful-O-Pep Super-Greens Pellets right now to fortify the necessary vitamin intake of your breeding flock


THE BOSS SAYS WE'RE THE BEST CHICKS EVER ON THE PLACE
THAT'S CAUSE HE FED OUR MAMAS FUL-O-PEP SUPER-GREENS PELLETS
THAT'S WHY WE'RE SO STRONG AND HEALTHY

GET SET now to produce in 1941 the best chicks you've ever had. Start feeding your breeders now with Ful-O-Pep Super-Greens Pellets as a supplement to regular feed. These pellets are rich in Concentrated Spring Range* and other vitamin-rich ingredients. They help the breeders produce chicks with the deep yellow colored shanks indicative of good health. For complete details write

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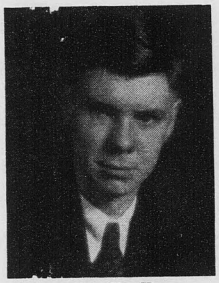
Milk Products in Poultry Feeds



DR. H. R. BIRD

During the spring of 1940 "curly-toe" paralysis in chicks caused considerable loss to Maryland poultrymen. Throughout the preceding winter the price of dried skimmilk and other milk products had been high and it seems safe to assume that the milk content of most poultry feeds had been very much reduced. In nearly all the cases observed last spring, the trouble was stopped and existing cases of paralysis were cured by adding 5% of dried skimmilk to the mash.

This was to be expected since it has been known for some time that "curly-toe" paralysis is caused by a lack of riboflavin (vitamin G) and that milk is a good source of this vitamin. However, results of recent research at the University of Maryland have indicated that riboflavin is not the only dietary factor involved in "curly-toe" paralysis and hence it is not surprising that not all the cases observed in commercial flocks responded to milk feeding. From a practical standpoint these cases are to be regarded as exceptions, and milk feeding is still the standard treatment for outbreaks of this type of paralysis.

The growth stimulating effects of milk products and milk substitutes are also being studied at the University of Maryland and it has been observed that whereas the growth promoting effects of dried whey can be explained on the basis of its riboflavin content dried skimmilk produces a greater growth promoting effect than would be expected on the basis of its riboflavin content. At least with some mashes dried skimmilk produces greater growth than dried whey.

Among milk substitutes, the most satisfactory are certain by-products of the production of solvents. When these materials are fed with properly compounded mashes, excellent growth can be produced without using any milk products.—Dr. H. R. Bird, Poultry Department, University of Maryland.

Crossbred Chicks for Broilers

Broiler raisers are interested in obtaining the lowest feed consumption per pound of gain. The less feed it takes to produce a pound of poultry meat the lower the production cost. Experimental work conducted at the University of Maryland on developing strains of purebreds and crossbreds for efficient broiler production has indicated that crossbred chicks, especially Barred Rock and New Hampshire crosses, are a little more efficient than purebreds as far as the number of pounds of feed required to produce a pound of meat is concerned.

It is important that the purebred breeds used in making crosses have the inherent characteristics of rapid growth, early maturity and rapid feathering to achieve the desired results.—J. C. Taylor, N. J. Extension Poultryman.

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Nation-wide POULTRY HEALTH SERVICE

● Poultry raisers are depending more and more upon the helpful service rendered by dealers who display Dr. Salsbury's identifying shield.

● Poultry raisers know that the dealer who displays this shield is experienced in poultry problems — and has at his command the diagnosis and research facilities of Dr. Salsbury's scientific laboratories.

● Free diagnosis of diseased chickens and turkeys is one of the helpful services given poultry raisers through Dr. Salsbury's Nation-wide Dealer Plan. Thousands of dollars, which otherwise would be lost by poultry raisers, are saved every year through the diagnosis and research work done by the scientifically-trained men in the modern laboratories of Dr. Salsbury.

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- **DR. SALSBURY'S ANTIGEN** (For Blood-Testing)
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Prevent Feather Picking in Turkeys

The following suggestions for the control of feather picking come from various sources:

1. Reduce crowding, give birds more "elbow room." Overcrowding is a primary cause of feather picking.

2. Supply bran, oats or alfalfa. This adds bulk to the diet, keeps the birds busy. Place opened bales of alfalfa in the pens. Feed greens and keep a hopper of whole oats before the turkeys at all times.

3. Stretch a wire above all feeders to provide means by which turkeys may clean their beaks.

4. Salt drinking water enough to give it a salty taste. Do this for two or three days. Repeat again at intervals if needed.

5. If other methods do not stop the vice, use one of the various mechanical devices, such as specs and blinders.

Selecting Superior Turkey Breeders

Several attempts have been made in recent years to develop indices based on measurements for the selection of superior breeding birds.

At the Oklahoma Agricultural Experiment Station, by measuring shank length, keel length, width and depth of body, birds with relatively short shanks were found to be best. Another method has been developed at the Oregon Agricultural Experiment Station. The method is to determine the width of the breast at a point 1¾ inches above the keel. A piece of sheet lead is used for this purpose by molding it to the body, transferring it to a sheet of paper and measuring the width which should not be less than 3½ inches. In practice only a few doubtful birds will need to be measured.

The latter method seems to be promising as an aid in selecting for fleshing on the breast. Improvement in fleshing, in egg production, together with good fertility and hatchability of eggs and survival of poults are all important points which should be stressed by turkey breeders.

Trapnesting, pedigree breeding, and progeny testing would facilitate selection, particularly for egg production and hatchability, but the use of small matings of carefully selected hens, each pen headed by a single male, would undoubtedly help, provided accurate records are kept of the number of eggs laid, set and hatched. Special attention to improving meat quality is also urgently needed.—Dr. V. S. Asmundson, University of California.

A hen's record of egg production is not an index of her breeding worth. Progeny testing is necessary to determine the breeding worth of a male as well as of a female.

Maryland 4-H Winnings

Each year many 4-H boys and girls in Maryland work on many poultry projects, including production and marketing problems. A considerable amount of time is also spent in judging chickens and in giving demonstrations on improved poultry practices. Below are given the winners in state-wide and regional contests held during the past year.

WINNING 4-H POULTRY TEAMS

In a State-Wide Contest Held at Timonium Fair, September 2 and 3, 1940

STATE 4-H POULTRY JUDGING CONTEST—September 2, 1940.

1st—Prince George's County—Score 1292.3. Frank Small, Clinton; Ralph Drum, Anacostia, D. C., Route 4; J. Paul Duke, Clinton.

2nd—Washington County—Score 1242.5. James S. Frey, Smithsburg; Eugene Frey, Smithsburg; Basil Brown, Smithsburg.

3rd—Montgomery County—Score 1241.5. William G. Hines, Jr., Brighton; George Lechlider, Rockville; George Fry, Gaithersburg.

4th—Allegany County—Score 1225.6. John Heavener, Cumberland, Route 3; Charles Ferguson, Cumberland, Route 3; Guy Walters, Cumberland, Route 3.

5th—Frederick County—Score 1204.0. Richard Cook, Frederick; Robert S. DeLauder, Frederick; Millard Grossnickle, Frederick.

DEMONSTRATION TEAM CONTEST—September 3, 1940.

1st—Montgomery County—Guy Lewis, Dickerson; Robert Gray, Poolesville.

2nd—Allegany County—George Brant, Cumberland; Robert Fey, Cumberland.

3rd—Talbot County—Charles F. Fuller, Jr., Easton; John Schwaninger, Easton.

4th—Queen Anne County—Sudler Tolson, Centerville; Palmer Councell, Centerville.

PLACINGS IN REGIONAL CONTESTS

Held at N. E. P. P. Co. Exposition, Atlantic City, Nov. 4, 1940

MARYLAND 4-H POULTRY JUDGING TEAM—

Bernard Murphy, Vienna, Dorchester County; J. Paul Duke, Jr., Clinton, Prince George's County; James S. Frey, Smithsburg, Washington County; George Fry, Gaithersburg, Montgomery County.

(Placed in Superior Group)

MARYLAND 4-H DEMONSTRATION TEAM—

Guy Lewis and Robert Gray, Montgomery County.

(Placed in Excellent Group).

Maryland F.F.A. Winnings

Many Future Farmers of America enrolled in the vocational agricultural schools throughout the state participate in various poultry projects and, in addition, engage in poultry judging contests. A state-wide judging contest is held every year at the University of Maryland at College Park and a regional contest is also being held every year at the Eastern States Exposition at Springfield, Mass. In 1940, for the first time, a Maryland F. F. A. team participated in the national judging contest held at Kansas City, Nov. 11. Below are given the winners in the various contests held during the past year:

WINNING F. F. A. POULTRY TEAMS

In a State-wide contest held at College Park, Md., April 27, 1940

1st Team—Arundel School, Millersville —Score 159.84.
Marvin Lucas
Francis Jones

2nd Team—Clearspring—Score 158.25.
Fred P. Kretzer
Leon Snyder

3rd Team—Snow Hill—Score 156.91.
Otho Mariner, Jr.
William Pusey

4th Team—Poolesville—Score 155.0.
Clyde Foster
Bobby Foster

5th Team—Accident—Score 154.83.
Junior Schlossnagle
William Oester

6th Team—Church Hill—Score 154.25.
John H. Hall
Marion Lieby

PLACINGS IN REGIONAL AND NATIONAL CONTESTS

The Maryland F. F. A. Poultry Judging Team, 1940, consisting of the following boys, won high honors in the following regional and national contests:

Abram Z. Gottwalls, Millersville, Coach
Roger Reedy, Jarrettsville
Marvin Lucas, Crownsville
Otho Mariner, Jr., Snow Hill

Eastern District F. F. A. Contests—Eastern States Exposition, Springfield, Mass.—September, 140—First among 11 states competing.

National Contests of Future Farmers of America—Kansas City, Mo.—Nov. 11, 1940 —Team placed Fifth among teams representing 29 states.

The results of research at the Maryland Experiment Station have shown that some brands of meat scraps and fish meal tend to prevent yellow pigment from being deposited in the skin and shanks. This is an important economic problem.

PURINA EMBRYO FEEDING

Builds Chicks Before They're Hatched

A baby chick inside a hatching egg feeds on the yolk and white material, just as a chick feeds on starting feed out of a hopper after it hatches. That's why hens that are producing hatching eggs need a special ration.

In addition to laying lots of eggs, they have to put into those eggs a plentiful supply of the many necessary food elements that the chick embryo needs to grow and develop. If the supply of certain of these elements runs low, the embryo dies — that's the cause for so much low hatchability.

Not only that, but the egg must also contain a reserve supply of food to give the chick a good start after it hatches. This is the way you get high livability. There is only one way of putting those food elements into the egg for the embryo, and that's through the feed which the hen herself eats.

If you want to produce eggs of high hatchability, ask your Purina dealer about the Purina Embryo Feeding Plan. Ask about Purina Brooder Lay Chow to be fed along with scratch grain, or Purina Layena, the complete, all-in-one feed. Both feeds are specially fortified with Puri-Flave and other ingredients for high hatchability and the production of embryo-fed chicks. See your Purina dealer and ask him for full details of the Embryo Feeding Plan, the plan that's designed to give you high hatchability, and strong vigorous chicks after they're hatched.

PURINA MILLS

St. Louis Mo. **Buffalo, N. Y.**

Pullorum Disease in Turkeys

Pullorum disease of turkeys was originally transmitted to turkeys from chickens, but is now established in many turkey breeding flocks where it passes through the same life cycle as in chicken flocks.

In turkeys the early mortality period is from 1 to 3 weeks and there may be intermittent relapses at a later period (8 weeks to 3 months).

The efficiency of the whole-blood test as now conducted is so low for turkeys that it cannot be recommended as a method to be used in control or eradication programs.

When used in 1-25 dilution of the serum-antigen mixture, the tube test has proved to be a reliable aid in eliminating pullorum disease from turkey flocks.

Segregation of turkey (and other fowl) and chicken eggs in hatcheries is recommended as a disease-preventive measure.—*Dr. W. R. Hinshaw, University of California.*

Cannibalism Can Be Controlled

Careful poultrymen can keep cannibalism in chickens under control. However, certain control measures that might prove effective on one farm may have no effect on an adjoining plant. A list of control measures follows. It has been clearly demonstrated that two or more remedies may be effective when one alone failed.

1. Determine the source of the trouble and eliminate it. 2. Watch the birds when trouble appears. Stay in the pen and try to identify the chief offenders; then eliminate them or remove them temporarily. 3. Tip the beaks, or use pick-guards or other approved devices. Vent shields might be necessary (for unmated birds) if prolapsus develops. 4. Treat injured birds with pine tar or some other recognized salve or repellent. 5. Feed a higher protein (20 per cent) mash for a few weeks. 6. Reduce the amount or proportion of corn and feed more barley, wheat or oats. 7. Allow at least three square feet of floor space for the light breeds and four square feet for the American breeds. 8. Provide at least 10 inches of roosting space per bird. 9. Provide at least three 6-foot, or two 8-foot, mash hoppers, accessible from both sides, per 100 laying birds. 10. Keep the pullets busy. Feed the scratch or some pellets in deep litter to increase the activity of the birds. 11. Feed often and use a fairly bulky feed. 12. Keep the houses clean, cool and free of drafts.—*Edward S. Walford, Connecticut.*

With a flock of 1,000 layers, averaging 150 eggs each, a saving of $3 per ton on a good egg-producing diet, and a premium of 1 cent per dozen would increase the labor income from the flock by $250.

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"Bestof All" Poultry Equipment

Maryland Made and Tested

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PIKGARDS

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Since first introduced in 1934, Layton PIKGARDS have been constantly improved each year, the latest model being unquestionably the most practical, dependable and durable poultry anti-pick device yet produced.

MILLIONS NOW IN USE
Approved and Used by Leading
Poultry Experiment Stations

ASK YOUR DEALER OR WRITE DIRECT FOR SAMPLE & PRICES

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South 170 Street & U. S. Highway 99
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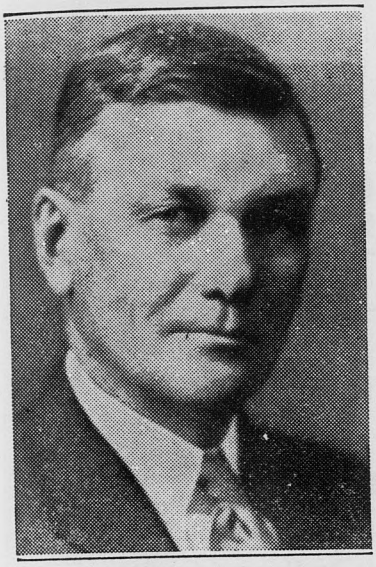

P. C. TURNER

MR. P. C. TURNER

of Parkton, Maryland, as President of the Maryland Farm Bureau Federation and Chairman of the Maryland State Fair Board, has done much to advance the interests of the poultry industry of the state.

Through his efforts and with the cooperation of the other officers of these two organizations poultry legislation has been aided, valuable assistance has been rendered in securing appropriations and grants in aid of F. F. A. and 4-H Club work have been provided. The State Poultry Council thoroughly appreciates such splendid cooperation.

Producing and Selling Eggs

TO QUALIFY

UNDER THE MARYLAND FRESH EGG LAW

The use of the word "fresh" (or words that indicate or imply freshness) is limited to eggs that posses the following quality requirements:

Air Cell—The air cell of a fresh egg may not be more than one-quarter of an inch deep. It must maintain a relatively fixed position and have a smooth, even outline.

White—The white or albumen of a fresh egg must be firm and clear. This standard allows the albumen to be of a consistency that will permit the candled appearance of the yolk to be moderately defined, but not clearly defined.

Yolk—The outline of the yolk, or yolk shadow, of a fresh egg when viewed before the candle may be discernible but not clearly and definitely demarcated. There shall be no visible defect or blemish.

Shell—The shell of a fresh egg shall be sound and clean. A sound shell is one that is unbroken. A clean shell will be considered one that does not have dirt or stained spots of considerable size and does not have loose or readily detachable dirt on the shell.

Size—The term "large" cannot be applied to any lot of "fresh" eggs unless the eggs average to weigh not less than twenty-four ounces net per dozen.

The term "medium" cannot be applied to any lot of "fresh" eggs unless the eggs average to weigh not less than twenty-one ounces net per dozen.

The term "small" (or pullet) cannot be applied to any lot of "fresh" eggs unless the eggs average to weight not less than eighteen ounces net per dozen.

Tolerance—In lots of eggs sold to the retailer or to the consumer as "fresh," a tolerance of two eggs having no serious defects shall be allowed in each dozen.

A Splendid Outlet for Your

EGGS

FANCY—WHITE—BROWN

BROAD BROTHERS

WHOLESALE RECEIVERS

Continually Growing Because We Render An Unusual Service

347 Greenwich Street **NEW YORK CITY**

5,000,000 CHICKS IN 1940

The Hastings Hatchery Specializes in the New Hampshire Red - Barred Rock Cross for Broiler Raisers

HASTINGS HATCHERY

Capacity 725,000
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Get the BUNDY Book!

BEFORE you invest a dollar in new equipment—get all the facts regarding Bundy Unit-Built Incubators and Separate Hatchers. Find out why Bundy Equipment is your best buy for successful hatching of chicks and turkey poults — and your safest choice from an investment standpoint.

No obligation. Tell us your needs—and get the complete story of the world's finest hatching equipment.

THE BUNDY INCUBATOR CO.
SPRINGFIELD, OHIO

How Your Chicks May Have Become Infected With Pullorum Disease

No form of pullorum disease is hereditary. The infection may be passed from the hen to the chick because the hen is a "carrier" of the organism which causes the disease. The disease may also be passed from chick to chick by contact. One "carrier" hen might have produced one infected chick in your flock, which in turn has spread the disease to such an extent as to cause heavy losses. Pullorum disease is undoubtedly contracted from chick to chick more than it is passed from hen to chick through an infected egg.

The hatcheryman has a grave responsibility in furnishing you with strong chicks that have been bred to develop into the kind of stock you must have to make money. He owes it to himself as well as to you to do everything in his power to sell chicks that have a good chance to survive.

The vast majority of hatcherymen are honest men striving to serve their community ethically and honorably. Most of them are adopting a program designed to produce healthy, livable chicks.

A great deal has been accomplished through hatchery sanitary programs. It is a common practice now to fumigate incubators several times during each incubation period, with the hope of killing any disease germs that may be carried from one chick to another in the machines.

There are some hatcherymen, however, who say they do not believe in testing their breeding stock or in fumigating their incubators. We often wonder whether they actually do not believe in it or whether they are just too lazy to do it. Before placing your order for chicks, find out as much as possible about the breeding, testing, and sanitation program carried on by hatcheries from which you may purchase chicks.

It has been demonstrated many times that a careful testing and fumigation program will reduce losses from pullorum disease to a point where it is of little importance.

If your hatcheryman is ambitious, careful and clean; if he tests his flocks and fumigates his incubators; if he does no custom hatching of eggs from untested flocks; places his chicks in clean boxes and delivers them to you in the best possible condition, it would seem that he has done his duty and that the rest of the job is rightfully yours.

A single chick out of 100 may infect as many as 30 or 40 other chicks in the same brood. The droppings, being the main source of infection, must be kept out of the feed and water. Two or more 30-inch feeders should be used for each 100 chicks. That will prevent crowding and contamination of the feed. The waterers should not be open troughs or pans. Sanitary waterers should be used at all times and plenty of them. The space with water surface exposed should be small enough so that the chicks do not get wet.

Since chilling is a common cause in the spread of infection, and since chicks are often chilled in long shipments, we recommend that they be purchased as near at home as possible.

It has been proved that pullorum disease organisms will remain alive for four years on a dry cloth. That shows how easily the disease can be carried from one brood to the next, or even from one season to another in any brooder house that

Here's *MORE* for Your Money!

The New Buckeye "CLIPPER"

NOW . . You can have separate hatching at a cost you never before thought possible.

With the separate hatching and setting units of the Buckeye "Clipper" you can make a good start in the profitable hatching business with a minimum investment. All vital incubation factors are automatically controlled; operating and current costs are lowered.

Just the Size Units You've Needed so Often

The Buckeye "Clipper" is also recommended for turkey hatching, special pedigree and pre-season hatching. Only small space is required.

Write for details on this profitable model!

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Evering's DEPENDABLE CHICKS

MD. U. S. APPROVED PULLORUM TESTED

Backed by 36 years of careful selecting and breeding. Officially blood-tested by the stained antigen method. Five most popular breeds—Single Comb White Leghorn, Rhode Island Red, Barred Plymouth Rock, New Hampshire Red and Red-Rock Cross.

HATCH EVERY WEDNESDAY • WRITE OR PHONE FOR PRICES

EVERING POULTRY FARM & HATCHERY

STEMMERS RUN, MD. **PHONE ESSEX 600**

is not properly cleaned and disinfected. The walls, ceiling, windows and floor should be thoroughly swept and scrubbed with hot water containing a standard solution of dip or disinfectant. The top dirt should be removed from the yards and replaced with clean sand or gravel. Such cleaning and disinfecting takes time, and should be done ahead of the date when the chicks are to be received. Moveable brooder houses on clean ground are ideal.—*Colorado College of Agriculture.*

Plumages As Tests for Tumorous Conditions in Chickens

DR. MARY JUHN

The study of fowl paralysis is rendered difficult through the lack of methods of diagnosis in the early stages of the disease. In human cancer early diagnosis is of importance and any suggestive leads towards a usable test deserve close attention.

At the National Institute of Health in London certain cancer producing compounds, which are chemically closely allied to the female sex hormone, have been studied with feathers of Brown Leghorn cocks and capons as tests. These experiments are based upon studies made at the University of Chicago which have shown that when Brown Leghorn cocks or capons are injected with the female sex hormone, growing feathers respond by a change in color and shape in the direction of the corresponding feathers of the hen. The feathers of different parts of the body react to different concentrations of the female sex hormone and this characteristic is of use in estimates of activity of given hormone samples.

The manner of growth of the feather, by which given levels are laid down daily to completion, the tip being formed first, is most useful in studies of the action of injected compounds. By daily pluckings of feather germs and examination of their growing bases, or by measurements of modified regions of fully grown feathers, the time of effective onset and the duration of effect after injection of a given substance can be estimated with reasonable accuracy.

The sum of these observations suggest that color modifications in feathers of Brown Leghorn cocks or capons might possibly prove of value as a diagnostic test for human cancer and possibly also for the presence of spontaneous tumors in these fowl. Certain preliminary studies carried on at the University of Maryland show promise in both these directions but they require substantial further experimentation for more complete results.—*Dr. Mary Juhn, Poultry Department, University of Maryland.*

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Maryland Farmer's Greatest Poultry Need

WADE RICE

Census and Crop Estimates data for 1934 shows about 89% of the 39,416 farms in Maryland reporting poultry as having flocks less than 200 birds. Data from the same source as well as contacts with large numbers of this group of farms show a relatively low egg production by these flocks during the months of September to February when the possibilities of profits are greatest.

Obviously, a number of factors contribute to this situation, but it is evident to a close observer that the factor of late hatching is an outstanding problem that is relatively simple to correct.

Since five and a half to six months are normally required for pullets to mature and be laying well, it follows that chicks should be hatched about March 15th to April 1st in order to have pullets laying when egg prices are best.

The shortage of good fresh eggs on Maryland farms in fall and early winter months reflects at least in part the immaturity of pullets due to late hatchings.

A dozen eggs in October is usually worth 2¼ dozen eggs in May, and the ratio of profits from fall and winter production to spring and summer production is in about the same proportion.

March or April hatched pullets are almost invariably more profitable than pullets hatched later.—*Wade Rice, Poultry Department, University of Maryland.*

Cull Them or Lose Them?

Adult mortality is the major worry--and loss—at this season of the year. It is actually a problem of flock reduction, for many birds are removed by culling that would otherwise fall by the wayside were they not culled at an earlier date.

Disease not only reduces the flock in numbers. It also reduces their potential egg production. Consequently, the problem is of dual economic significance: it is a dollars and cents proposition to the poultryman.

Why not follow a better sanitation program this winter? Many good birds can be saved; many more eggs will be gathered from your flock. Your houses will be operated at a higher efficiency if such excessively heavy culling is not necessary this winter.

Exercise caution when introducing any new stock from outside sources. Keep the itinerant peddler or buyer out of your pens. Never allow him to bring his potentially contaminated coops on your premises. Allow your neighbors to inspect your poultry—through the windows only.

Buy your chicks with discrimination. Check up on the sanitary practices of the hatcheryman or breeder from whom you expect to buy your chicks.

Your losses from culling and adult mortality can be greatly reduced if you will refrain from doing many of the things which have caused grief to your neighbors.—*Edward Walford, Connecticut.*

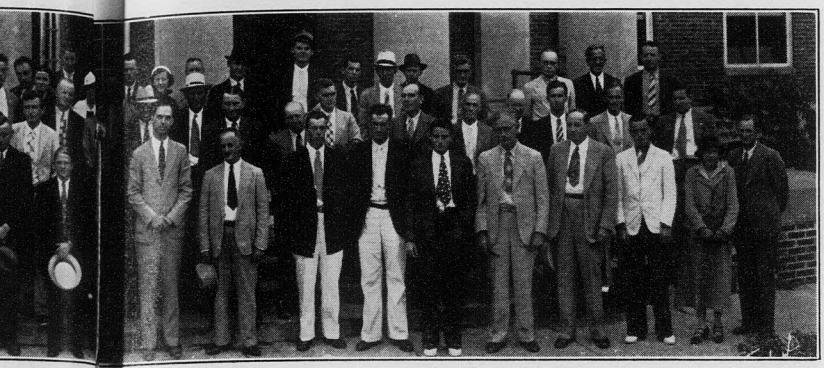
POULTRY IMPROVEMENT

Since 1937 many Poultry Improvement Schools have been held in various parts of Maryland with including the adoption of better breeding methods, pullorum testing, and improved sanitation and ma of the school held at the University of Maryland, College Park, in 1937. During the past four years

POULTRY MARKETING

Each year for the past three years the Poultry Department of the University of Maryland, in coo Agriculture, and the Northeastern Poultry Producers Council, has conducted a four-day Poultry Pro University of Maryland, College Park, in 1940. Over 325 producers, dealers, and graders have at

The purpose of these Poultry Products Marketing Schools is to arouse interest in the conservati At the school held in 1940 there were 17 states represented and it represented the largest gathering



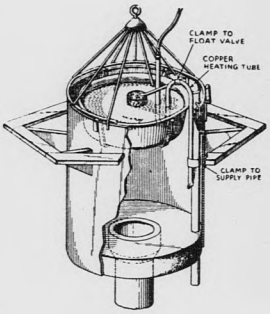
LTRY IMPROVEMENT SCHOOL

parts of Maryland with the object of stimulating interest in the Maryland Poultry Improvement Plan, ed sanitation and management methods in breeding and hatchery flocks. The photograph shown above is the past four years over 2,000 breeders, producers, and hatcherymen have attended these schools.

OULTRY MARKETING SCHOOL

of Maryland, in cooperation with other departments of the University, the United States Department of ur-day Poultry Products Marketing school. The photograph shown above is of the school held at the nd graders have attended these schools.

est in the conservation of quality in poultry products and to improve handling and marketing methods. e largest gathering of egg and poultry marketing officials ever held.



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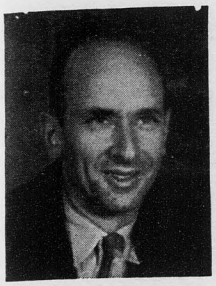

PROF. G. D. QUIGLEY

The major bottleneck on the poultry or general farm is the brooding and rearing program. That is the time when labor requirement is at its peak, and besides, if one is not successful in his rearing program he will either find himself out of the poultry business, or operating at greatly reduced efficiency. Although housing, breeding, nutrition and disease control are of importance, probably the most vital task of the poultryman is to arrange the program of his rearing operations so as to insure a good crop of healthy pullets, sufficiently early so as to enable him to secure a good rate of lay during the high priced egg market.

To perform this task the poultryman must secure good, strong, healthy liveable chicks. Our older poultrymen know this fact from dear experience but beginners are usually slow to fully accept the idea. Next, the poultry raiser must have good equipment for his rearing operations and it is the purpose of this article to discuss that phase of the problem.

Brooder Houses—The portable colony brooder house, brooding up to 350 chicks, which may be moved to a new location once or twice yearly, has always been popular and probably continues to be the most satisfactory brooder house for the general farmer or small poultryman. The cockerels may be sold or disposed of at the proper time, and the pullets will continue to use the house as a range shelter until maturity.

The larger poultrymen will probably continue to prefer the long continuous brooding house, plus the portable range shelter, for his rearing job. This gives him the advantage of concentrating all of his brooding operations in one area for labor and fuel saving, and then transferring his pullets into range shelters on a clean, grassy range. The range shelter is an economical piece of equipment, thoroughly practical, is more easily moved than a portable brooder house, and does a grand job of rearing a bunch of pullets. During the off season a range shelter can, in a pinch, be used as a house for surplus stock or even as a brooder house, provided the sides are covered with bags, paper, boards or lumber substitutes.

Brooder Stoves—Coal, oil, wood and electricity are the usual brooding fuels, and all are successfully used by various operators. Hard coal is satisfactory if a stove of proper fuel capacity is obtained, but it lacks flexibility in responding to temperature changes, and for perfect results requires somewhat more skill than is generally realized. Oil is flexible in responding to temperature changes, but one should buy only the better quality stoves, as the cheaper ones are uncertain in operation and thoroughly dangerous besides. The use of well constructed wood burning stoves is to be generally recommended in Maryland, and where wood is available at home it makes an excellent brooding fuel. They are labor saving, remarkably uniform in operation (much more uniform than the coal stove in average hands) and are cheap to operate. The chimney must be installed according to manufacturers directions and should be cleaned once in seven days without fail. This operation requires from 5 to 10 minutes each time. Ashes may be allowed to accumulate for several weeks before their removal is desirable. They burn any kind of wood, green or dry, and normally two fillings in twenty-four hours is all that is necessary. Buy

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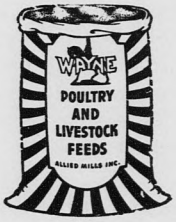

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a good one, for they must be air tight except at the thermostatically controlled air inlet for good results.

Electricity as Fuel—Poultrymen typically either praise or cuss electric brooders. The advantages are uniformity of temperature, relative freedom from fire hazard, and labor saving. Their disadvantage is a smaller brooding capacity than other stoves, danger of current interruption, a slightly slower growth, and a tendency for litter to become damp much more quickly.

The electric hover does an excellent job during the later spring months, but the experienced poultryman is apt to criticize its performance during the colder months. At the Maryland Experiment Station we have learned that during cold weather we must disregard the brooder thermometer and raise the temperature until the chicks spread out nicely under the hover, the indicated temperature on the thermometer often rising to 115 degrees during this period.

Our guess is that when the initial cost of the electric hover is lowered, and rural electrification is more general, that the small flock owner will turn more and more to electricity for brooding. It is economical to use electricity whenever the cost is 3 cents or less per kilowatt hour. Concerning the bigger poultrymen I am not so certain. At present, as previously indicated, some operators like it and some do not. A poultryman should study the problem very carefully before making a decision in favor of electric hovers.—*Prof. Geo. D. Quigley, Poultry Department, University of Maryland.*

Preventing Colds

Poultrymen, generally, are familiar with colds in the early stages, indicated by running nose and watery eyes. In advanced cases (roup), the discharge becomes sticky and foul-smelling; sometimes the nasal passages and the sinuses near the eyes become filled and swollen with pasty mucus. Birds are depressed, appetites fall, production falls off.

Susceptibility to colds is definitely increased by conditions which lower vitality. Many of these conditions are under the control of the poultryman, who by timely attention, may forestall epidemics. Crowded pens, drafty and poorly ventilated houses, dampness, lice, mites, worms, inadequate rations—all impair vitality and resistance. The best present insurance against trouble is to look out for such matters of management and nutrition.

Provide proper ventilation, with protection from drafts and dampness. Take advantage of sunlight. Supply plenty of vitamin A by including in the ration yellow corn, alfalfa meal and one per cent of potent cod liver oil. Clean drinking water in untensils that have been disinfected thoroughly will help in preventing the spread of colds.

Remove ailing birds as soon as noticed. Some epidemics gain in virulence with each new victim, and sick birds left in the pen are constant centers of infection.—*Prof. Locke James, State Institute of Applied Agriculture, Long Island, N. Y.*

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MAKE MORE MONEY

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- √ HALLCROSS are hatched exclusively from New England, Pullorum free stock.
- √ HALLCROSS have Hybrid vigor, low mortality and rapid, economical growth.
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Start and grow them The HUBBARD SUNSHINE Way. You'll see them safely through those dangerous first-few weeks, and all the rest of the way—a simple, practical feeding program that has proved itself more profitable on thousands of poultry flocks. Ask the man who feeds it . . . then convince yourself by a test on your own flock.

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Qualified Flock Selecting Agents

At five Poultry Improvement Schools conducted last fall by Dr. Morley A. Jull, Mr. Wade Rice, and Mr. Charles Williams of the Poultry Department of the University of Maryland there were 72 adults and juniors qualified as flock selecting agents. Judging contests were held at each school and through the generosity of the Maryland State Fair Board, prizes were offered to the first four in the adult section and in the junior section comprising boys and girls between 10 and 20 years of age. All persons who passed the tests are qualified to select breeding flocks that are used to supply eggs to hatcheries cooperating in the Maryland Poultry Improvement Plan. The winners in each section at each school are as follows:

Bel Air Improvement School.—Adults—1, Robt. Stuhler, Stemmers Run; 2, C. M. Harrison, Baldwin; 3, Mrs. J. Roy Enfield, Forest Hill; 4, Jim Morse, Forest Hill; *Juniors*: 1, Kurtz Fuller, Jarrettsville; 2, John W. Evering, Jr., Stemmers Run.

Centerville Improvement School.—Adults—1, Geo. Saathoff, Hillsboro; 2, Mrs. J. Edgar Bryan, Queenstown; 3, Walter Elburn, Chestertown; 4, M. Emmitt Potts, Hillsboro. *Juniors*: 1, Bernard Murphy, Vienna; 2, John Swaninger, Easton; 3, Julian Hopkins, St. Michaels; 4, Bobby Walcott, Centerville.

Frederick Improvement School—Adults—1, Ralph Stonesifer, Keymar; 2, Gordon Umstead, Olney; 3, Chester Hays, Thurmont; 4, H. S. Beck, Mt. Airy. *Juniors*: 1, Wilson Holland, Frederick.

Marlboro Improvement School.—Adults: 1, Calvin Voris, Laurel; 2, H. L. Drum, R. 4, Anacostia, D. C.; 3, Earl B. Howard, Odenton; 4, A. Stanley Morean, Lanham. *Juniors*: 1, Wm. Turner, Aquasco; 2, Richard Chichester, Aquasco; 3, Bill Dorsett, Upper Marlboro; 4, Ralph Drum, R. 4, Anacostia, D. C.

Princess Anne Improvement School.—Adults: 1, Ralph Owens, Parsonsburg; 2, Allen Bradley, Sharpstown; 3, Samuel R. Fields, Box 881, Salisbury; 4, Oscar Benson, Princess Anne. *Juniors*: 1, Lee Bauchamp, Pocomoke; 2, Perry Twining; Princess Anne; 3, Robert Long, Pocomoke; 4, Martin Yaeger, Princess Anne.

TURKEY SELECTING AGENTS

At two Turkey Improvement Schools conducted in November by Prof. Wade Rice, Prof. James M. Gwin, and Charles S. Williams of the Poultry Department of the University of Maryland there were eleven turkey breeders who qualified as selecting agents to select turkeys whose owners are conducting their work in connection with the Maryland Turkey Improvement Plan.

Easton School—November 12, 1940: Mrs. W. O. Knotts, Cordova; Miss Agnes R. O. Tilghman, Easton; Mrs. W. W. Hopkins, Cordova; Oscar Mankamyer, Easton.

Shawsville School—November 13, 1940: Mrs. A. W. Sattler, Monkton; Mr. Arthur Nelson, Monkton; Mrs. B. E. Davis, Rocks; Miss Eloise H. Wilson, Edgewood; Mrs. J. Roy Enfield, Forest Hill; John M. Tipton, Jarrettsville; Mrs. Ross E. Smith, White Hall.

IMPORTANT NOTICE!

Sometime during 1941 there will be held

at the University of Maryland, College Park

Several Meetings of outstanding importance to Maryland poultrymen in the form of

A School on Breeding and Hatchery Management
A School on Disease Prevention
A School on Nutrition
A School on Grading and Marketing Poultry Products

These schools will be held during one week, the time of holding them to be determined by the exigencies of the national defense program.

Championship Pen at the NEPPCO Exposition shown by ELWOOD TAYLOR Berwyn, Maryland (Photo by Poultry Tribune)

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Pullorum Control in Chickens

Measures for the eradication of pullorum disease are as follows:

1. All birds on the premises should be tested annually.

2. If infection is present, the entire flock should be retested within 4 to 6 weeks until a negative report is obtained, provided the value of the birds justifies the expenditure for testing.

3. Every reactor, regardless of its value, should be removed from the premises and sold for slaughter immediately upon receipt of the report.

4. The poultry houses, runs, and equipment should be thoroughly cleaned and disinfected immediately after removal of reactors. An empty pen in each house may facilitate cleaning and disinfection during winter months. Disinfectants approved by the United States Department of Agriculture should be used.

5. Offal from all birds dressed for market or home consumption, as well as dead birds that are not fit for consumption, should be burned.

6. Birds removed from the premises to egg-laying contests, exhibitions, etc., should be held in quarantine and determined to be free from disease before they are readmitted into the flock.

7. Purchase of stock in the form of adults, chicks, and eggs should be from officially recognized pullorum-clean flocks.

8. Eggs should not be saved for hatching until after a flock has been tested and all the infected birds removed. Early pullet testing will permit early hatching.

9. Fresh and infertile eggs from unknown or infected sources should not be fed to chickens or exposed to other animals that may carry or spread the infection.

10. Poultrymen should not custom-hatch from untested or infected flocks.

11. Owners of pullorum-disease-free flocks should not have hatching done where infected eggs or stock may be found.

12. Poultrymen should not use equipment or buy feed in bags that have been exposed to or contaminated with infected material unless properly cleaned and sterilized or disinfected.—*Massachusetts College of Agriculture.*

Poultry Marketing School

At this school the following Maryland men were issued egg grading certificates: John M. Bergen, Baltimore; D. Varner Carpenter, Frostburg; H. Howard Devilbiss; L. E. Downey, College Park; W. S. Harrison, Baltimore; John W. Snoddy, Riverdale.

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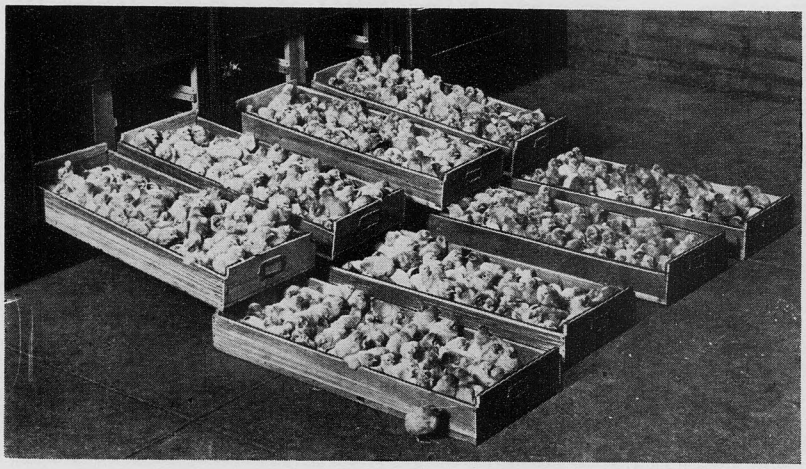
MR. C. S. WILLIAMS

Maryland has five poultrymen participating in the record of performance breeding stage of the Maryland Poultry Improvement Plan. This is the most advanced breeding stage of the Plan and embraces records of egg production, egg weight, and body weight made on the breeder's premises under official state supervision.

Maryland R.O.P. breeders are in a position to offer to hatcherymen and poultrymen R.O.P. White Leghorn, New Hampshire, and Barred Plymouth Rock hatching eggs, baby chicks and breeding stock.

The use of R.O.P. stock in hatchery flocks is one of the best means of improving the production qualities of pullets developed from hatchery chicks.—*Mr. Charles S. Williams, Poultry Department, University of Maryland.*



Pullorum Testing Pays

A survey of Maryland hatcherymen, made by the Agricultural Economics Department, shows that up to four months of age chicks that came from pullorum-tested parent stock had a mortality rate of 12.3 per cent while chicks from non-pullorum-tested stock had a mortality of 16.9 per cent, or a difference of 4.6 per cent. This reduction of mortality has meant many thousands of dollars to Maryland poultrymen. Every breeding flock should be officially tested every year.

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from MAINE to CAROLINA Say:

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- have less mortality,
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- WHITMOYER INCUBATOR FUMIGANT
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- ROOST PAINT (Nicotine Compound for Delousing Poultry)

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- PROTOSEP (Flock Treatment for Coccidiosis)
- PROTO TABS (Intestinal Antiseptic and Astringent)
- AMYTHOL (Spray for Colds and Roup)
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Complete Line of Poultry Supplies

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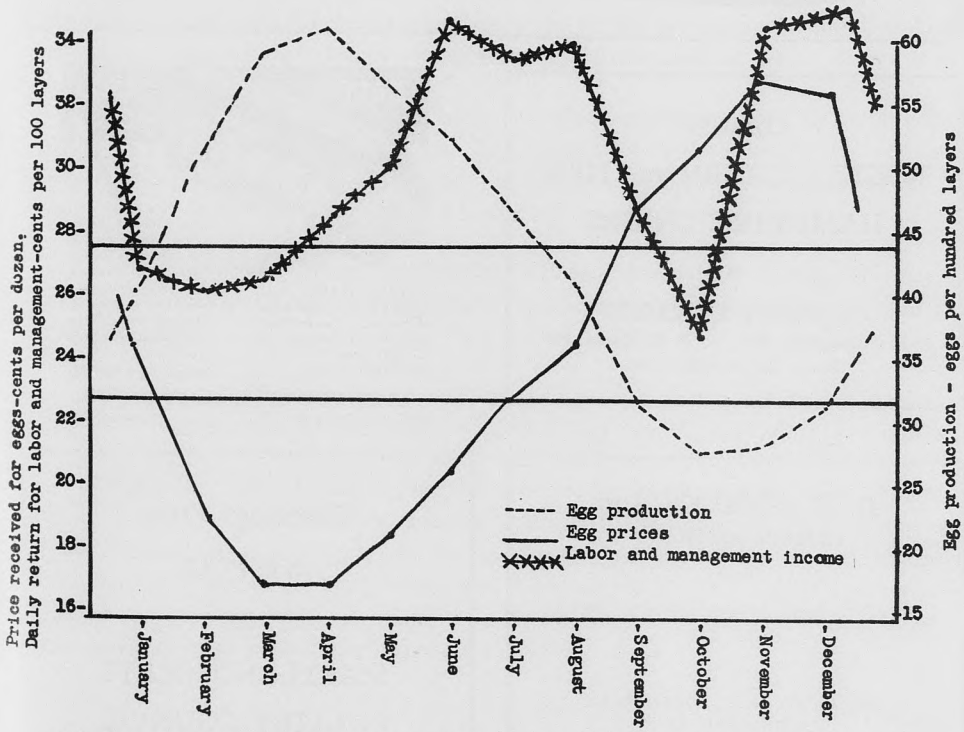
Making More Money in Market Egg Production

Egg prices and egg production usually move in opposite directions. The values for labor return indicate that Maryland poultrymen need higher prices during the heavy production months of January through April. An increase in egg prices of only two cents a dozen during these months would increase the labor and management returns during these months to approximately that obtained during the high price months of November and December.

Maryland poultrymen need to manage their flocks so as to obtain higher production during September and October. Three steps will help: (1) Raise early hatched pullets, so that they will be in good production during September and October. (2) Buy better bred stock which will continue laying later in the fall. (3) Give the layers additional light from the middle of July on, so that a fourteen or fifteen-hour day is maintained.



The layers from which these production data were obtained averaged about 161 eggs each. The labor and management return per bird for the year was $1.16.

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Greetings From
NEPPCO
to
MARYLAND STATE POULTRY COUNCIL

How Cooperative Auctions Fit the Poultrymen's Needs

Cooperative auctions such as the one developed at Westminister, Maryland, provide a type of marketing service which fits the patrons' needs and desires in at least four important ways.

1. The first of these is that the auction associations do not require the member to deliver all of his market eggs or poultry to the cooperative. The fact that the auctions insist on no such agreement appeals to producers.

2. With numerous buyers and with outlets many and close, quality is a virtue which has direct rewards. Practically every producer has pride in his products, and probably feels that his commodities are above the average. He therefore likes to have them sold individually and separately. In this respect the auction also meets with his approval. Each producer's eggs and poultry are sold separately and by grade, weight, and producer number to the highest bidder.

3. A third way in which the cooperative auctions fit local customs and conditions is that they permit price comparisons. The auction has to meet actual competition. It can meet this competition only by giving the producer equal or higher net returns—by selling his eggs and poultry effectively and by keeping costs low.

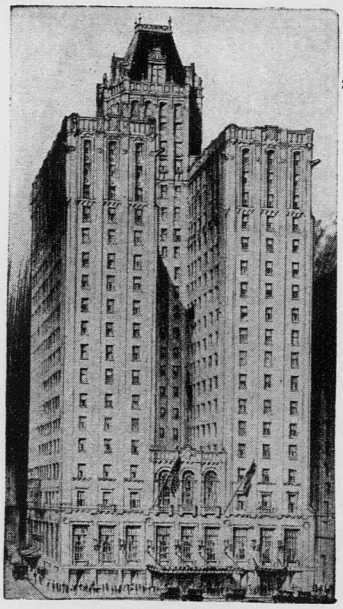
4. This leads to the fourth point in which auctions score in popularity—low costs and a minimum of services. A minimum of services means that producers are required to perform as many of the marketing functions themselves as possible. To do so means more work but higher net returns to them.

Auction selling is open, competitive selling. It tends to obtain all that the product is worth. It appeals especially to buyers who sell directly to the ultimate consumer.

Aside from fitting the producers' needs, another factor which has helped to speed the development of the auctions is that they can be started in a small way.

Among the other types of cooperatives is the pooling association, operating under producers' marketing agreements essentially the same as those in the west coast cooperatives. There also is the bargaining association in which the cooperative does not handle the eggs but merely negotiates prices. There is a commission type of cooperative which is similar in every respect to the auction type except that sales are not made over the auction block.

Each of these types of associations—as well as the auction type itself—emphasizes the need for setting up associations which will fit specific conditions.—*John J. Scanlan and Roy W. Lennartson, Farm Credit Administration, U. S. D. A.*



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Controlling Fowl Paralysis

Fowl paralysis, sometimes called leukemia, fowl leucosis, or lymphomatosis, is a widespread disease of chickens.

Sometimes the only symptom is paralysis of the leg or wing showing that the nerves of the legs or wings are primarily involved. Respiratory paralysis, indicated by labored breathing and purple head color, may be another symptom. Tumors of the skin, liver, spleen, kidneys, ovaries, or intestines are commonly seen. Often the skin tumor appears as a boil in the early stages. At other times the bone marrow, in the long bones, is the seat of the infection. One or both eyes may gradually become light gray in color. One must, however, be conversant with this particular indication to avoid the possibility of confusing this condition with normal gray eyes often found in fowls.

The symptoms in affected birds are varied. The tissue attacked by the germs largely determines the symptoms. Infection may be noted at any age from two to twelve months. In growing birds blindness, and paralysis of the legs or wings may be the indications noted. In older birds blindness, paralysis, and tumors may be evident.

In early stages one may note a bird with toes curled or a staggering gait or small skin tumors. Later the bird may become paralyzed, unable to walk or move, or blink, or thin, or emaciated.

Among the ways in which this disease may spread is through the purchase of chicks, hatching eggs, or breeding stock, or contact by mechanical means such as, visitors, feed bags, birds, animals, rodents, dust, and market crates.

Chicks from clean flocks may become infected when reared on farms where the disease is present if sanitation in rearing is not observed.

Fowl paralysis is so widely disseminated that its eradication will probably be a long, hard fight.

Hatchery operators should:

1. Select flocks with a low mortality.

2. Eliminate any flock in which evidence of severe loss from fowl paralysis is evidenced. Code the chicks when sold as to source of hatching eggs. By questionnaire to the chick buyers determine whether chick loss has been due to this disease. Use this information as a guide in selecting or discarding breeding flocks.

Flock owners should:

1. Purchase chicks that come from flocks showing no evidence of the trouble.
2. Discard every bird from a diseased flock in which there has been a heavy loss.
3. After disposal of all old stock, clean and wash the laying house floor and side walls with a solution of one can of lye in 15 gallons of water. Paint the roost, nests and dropping boards with a wood preserving material. Whitewash the walls including in the solution about 4 ounces of crude carbolic acid to every gallon of the mixture.
4. Rear the chicks on clean ground and follow a rigid clean-growing program.
5. Move the pullets from clean range to confinement in the clean quarters.

Breeders should:

1. Trapnesting is the first step in a program of breeding for resistance to fowl paralysis. Use the trapnest to establish breeding lines or families.
2. Keep mortality records for chicks from each mating during the laying year.
3. Save breeders from hens and families where the mortality is low irrespective of record. Never breed from hens that show a heavy death rate in the progeny. This program entails more work in record keeping but it is a necessary essential to the breeder who wants to breed for resistance to fowl paralysis.
4. Keep hens for as many years as they produce liveable offspring profitably.

Finally:

Fowl paralysis is a widespread and serious disease of chickens. There is no remedy for the disease, and there is no test to pick out the infected birds. The history of the flock is the only way to determine its status. The most important factor in control at the present time is to locate flocks that show no symptom and in which there has been a low death loss.—*Dr. B. A. Beach, University of Wisconsin.*

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Nowadays consumers prefer a relatively small sized dressed turkey, averaging about 10 to 14 pounds. Many Maryland turkey growers are selecting and breeding earlier maturing, smaller sized breeders than formerly.

Utility turkey breeders have suggested the following weights in pounds for commercial turkey production: Young hen, 12; yearling hen, 13; adult hen, 14; young tom, 21; yearling tom, 24; adult tom, 26.

Premiums for Hatching Eggs

Since egg costs constitute the most important single cost factor in hatching, and since the hatchability of eggs is such an important factor in determining the egg cost per chick, it is interesting to ascertain the relationship that exists between the premium paid for hatching eggs and their hatchability. Most hatcheries pay a premium above market price, the amount of the premium differing greatly and depending upon the extent to which flock improvement work is carried on among the flocks producing the eggs for the hatchery.

The chart shown in Fig. 1 may be used for calculating the egg cost per 100 chicks when the per cent of salable chicks hatched and the cost of the eggs in cents

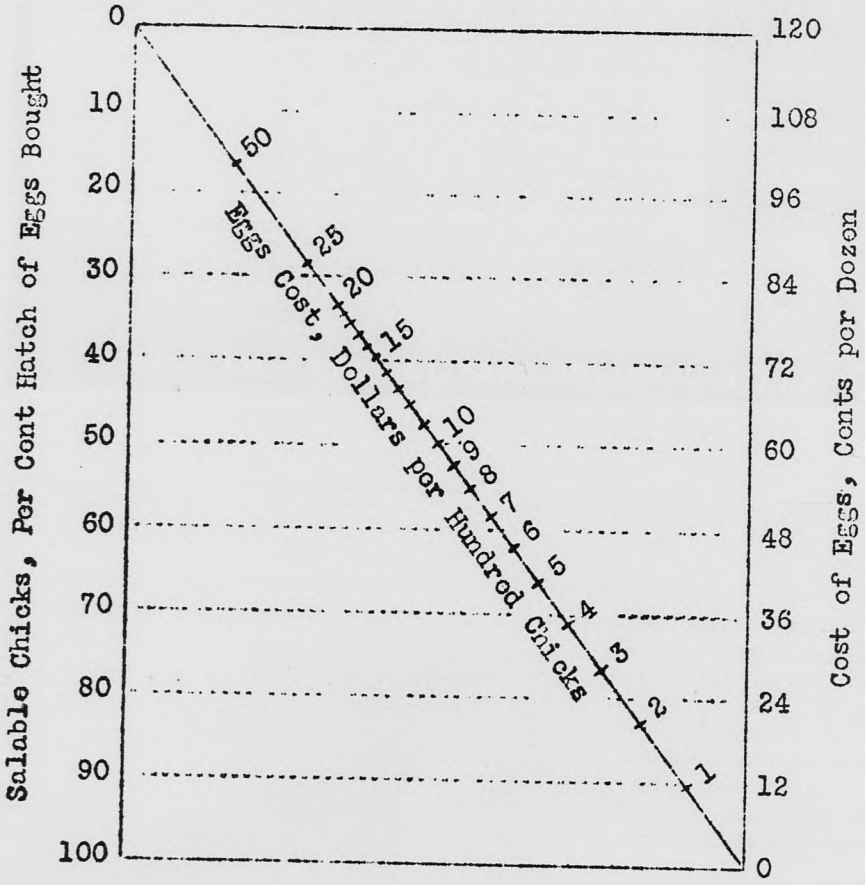

Fig. 1. A chart for the easy calculation of the egg cost per 100 chicks when the percentage of salable chicks hatched and the cost of eggs in cents per dozen are known. (Byerly, 1936.)

per dozen are known. The range in hatchability is indicated by the vertical line at the left side of the chart. the line being graduated from 100 at the bottom to 0 at the top. The range in price paid for eggs in cents per dozen is indicated by the vertical line at the right side of the chart, the line being graduated from 0 at the bottom to 120 at the top. The diagonal line extending between the 0 points of the

two vertical lines is graduated from 1 to 50 and indicates the egg cost per 100 chicks expressed in terms of dollars per 100 chicks.

Placing a ruler across the chart and crossing the vertical lines at the right and left sides at the appropriate price per dozen for eggs and the appropriate per cent hatch of salable chicks gives the egg cost per 100 chicks on the diagonal line. If hatching eggs cost 48 cents per dozen and 78 per cent of them hatch into salable chicks, the egg cost per 100 chicks is $5; but, if 45 per cent hatch into salable chicks, the egg cost per hundred chicks is $8.

This chart may also be used to compute the premium, over the market price, that the hatchery operator can afford to pay for eggs. He knows the selling price of his chicks and should know the required overhead and profit to be charged to each 100 chicks. Suppose that chicks sell for $10 per 100, that the hatchery operator required a profit of $2 per 100 chicks, and that his overhead amounts to $3 per 100 sold. This leaves $5 per 100 as the permissible egg cost per 100 chicks. By placing the edge of the ruler at the $5 point on the diagonal line and also at the point on the line at the left side representing the per cent hatch obtained, the price the hatchery operator can afford to pay for eggs will be read at the point at which the edge of the ruler intersects the line on the right side. The difference between this price and the market price of eggs is the premium that the hatchery operator can afford to pay.

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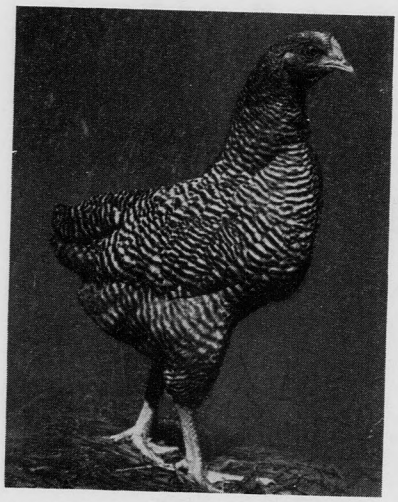
Many Maryland hatchery operators are carrying on selection, breeding, and pullorum-testing work under the provisions of the Maryland Poultry Improvement Plan. Hatchery flocks are thoroughly culled, the breeders are carefully selected and are tested under official state supervision of the Live Stock Sanitary Service. The flocks and hatcheries are inspected by an official state inspector.

Hatcheries that pass the inspection are able to offer to the public Maryland U. S. Approved Pullorum-tested chicks, Maryland U. S. Approved Pullorum-passed chicks, and Maryland U. S. Approved Pullorum-clean chicks, depending upon the pullorum-testing stage attained.

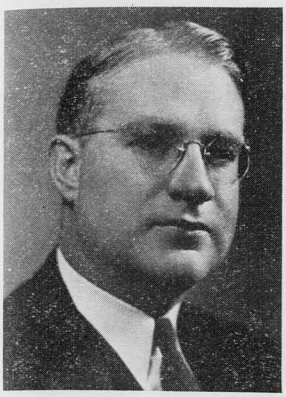
A list of these hatcheries may be obtained from the Poultry Department of the University of Maryland, College Park.



Barred Plymouth Rock cockerel at 6 weeks, showing early feathering.

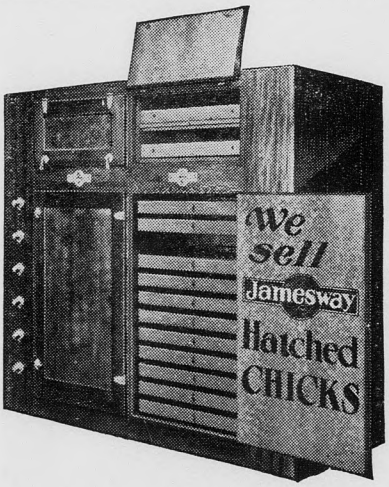
Maryland has long been famous for its superior quality broilers. The majority of the broilers grown are crossbreds, secured from matings of Barred Plymouth Rock males and New Hampshire females, although many purebred Barred Plymouth Rock broilers are also produced every year.

Rapid growth and early feathering are two essential factors for profitable broiler production. The selection of good breeding stock, especially males, is of the utmost importance if good broiler chicks are to be secured. Good width and depth of body in relation to shank length and good width of feathers are desirable.



MR. JOHN E. CLARK

Mr. John E. Clark is Chairman of the House Agricultural Committee of the Maryland State Legislature and Field Representative of the Maryland State Fair Board. Mr. Clark is a stalwart friend of poultrymen in Maryland and has done much to improve conditions in the industry, particularly with respect to poultry exhibits at state and county poultry fairs. He was largely instrumental for the poultry educational exhibit staged at the Baltimore Food Show encouraging the increased consumption of eggs and poultry meat. Mr. Clark is also Chairman of the Legislative Committee of the Maryland State Poultry Council and deserves the thanks of all poultrymen in Maryland for his untiring efforts in behalf of the industry.



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Poultry and Egg National Board

The billion dollar poultry industry has at last organized nationally to promote a greater demand for poultry products through a well planned consumer information program.

In July, 1940, nineteen national and regional organizations of the industry joined hands to form the Poultry and Egg National Board. Producers, breeders, hatcherymen, cooperative marketing groups, processors, packers, distributors, feed manufacturers, equipment manufacturers, and the poultry press pledged financial support to the National Board.

The object of the Board is "To increase the use of Poultry, Eggs and their Products, through a better understanding of their value and to initiate and encourage education and research."

The offices of the National Board were opened in October, 1940, in Chicago. A comprehensive consumer program is already under way. Under the direction of Mrs. Kathryn Bele Niles, Home Economist, new uses and recipes for poultry products are being developed in the Laboratory-Kitchen. Releases for metropolitan newspapers, food editors, radio food specialists and home service demonstrators are mailed regularly throughout the country.

Homer I. Huntington manager and Mrs. Kathryn Bele Niles, home economist in the New Poultry and Egg National Board Laboratory Kitchen

While consumer programs are being carried on successfully in some states, this is the first time that all branches of the industry have cooperated in a national program.

To be successful in this program much attention must be directed toward creat-

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ing an industry consciousness of the importance of eggs, poultry and poultry products as essential to the daily food requirements of the nation.

The American people consume billions of eggs and millions of pounds of chicken and turkey annually. Will this present rate of consumption continue? Have we any reason to believe that it will increase? Our job is to tell consumers why more eggs and poultry meat should be consumed.

When the entire poultry industry—from the producer down to the last handler—has a better understanding of the nutritional value of eggs and poultry meat, and is willing to spend time and money in telling the public of these facts, then we can expect to hold our present level of consumption or hope to increase it even in the face of serious competition.

Enough research has been done to place eggs definitely in the list of essential *protective foods* along with milk, fruit and vegetables; while poultry meats are classed with highly nutritious, easily digested, healthful and economical foods. Research must not stop at this.

Such information assumes a greater significance in times like these when health and general welfare are such an integral part of our total defense program and when proper nutrition is recognized as the basis for physical fitness.

The Maryland State Poultry Council has already done commendable consumer work. This work should go on in cooperation with the National Board. The results of such a program will help build a more prosperous poultry industry and a healthier, happier nation.—*Homer L. Huntington, manager, Poultry and Egg National Board, Chicago, Ill.*

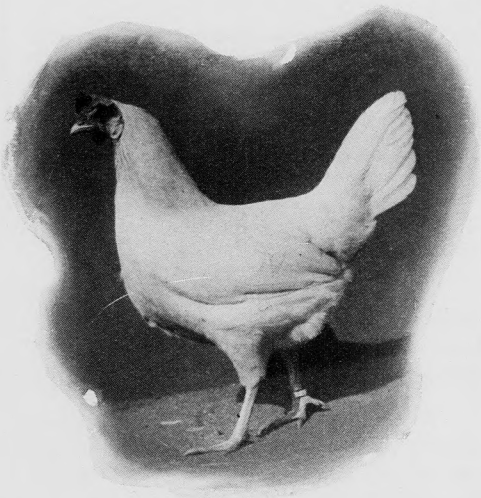
Laying Traits for Profitable Market Egg Production

Data collected during the six years of the Maryland Egg Laying Contest show that the production of one egg requires about one-eighth pound of feed in addition to the feed required to maintain the body weight, activity, and body functions of the hen. The maintenance cost for hens of the general-purpose breeds, which averaged 5.7 pounds in weight, was about 68 pounds of feed per year, and for Single Comb White Leghorns, which averaged 3.6 pounds in weight, about 56 pounds per year.

Since the eggs produced must pay for the feed eaten, including that used for maintenance, the feed cost of egg production for low producers is much greater than that for high producers.

Feed costs constitute about one-half of the total costs of producing eggs. Properly balanced diets and well bred stock are necessary if good profits are to be made in market egg production.

Leghorn pullets should commence laying at about 160 days of age and should weight at least 3 pounds at that time. They should not only lay at a good rate throughout their first laying year but should continue to lay up to September or October.



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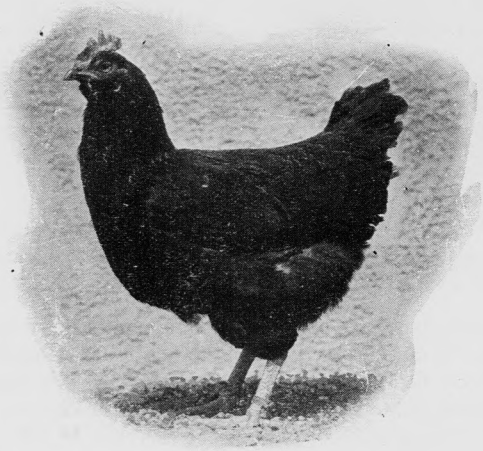


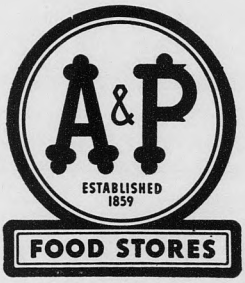
New Hampshire, Rhode Island Red and Barred Plymouth Rock pullets should commence laying at about 180 days and should weigh at least 4½ pounds at that time. Good rate of laying and persistence of production as evidenced by continuous laying to September or October without molting are essential traits in profitable producers.

Greetings

and

best wishes to

MARYLAND'S POULTRY PRODUCERS

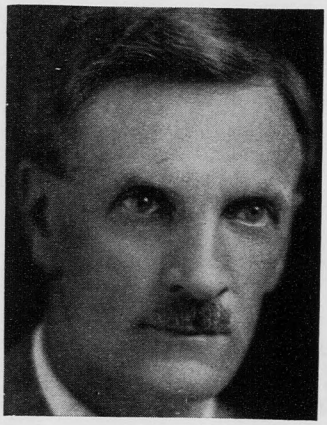


National Egg and Poultry Dept.

The Great Atlantic & Pacific Tea Co.

Graybar Building, New York

Market for Turkey Hatching Eggs Open to Maryland Growers



Dr. M. A. Jull

Due to increased demand in recent years for early hatched poults in the Northeastern States, Maryland turkey growers have an excellent opportunity to develop a good market for turkey hatching eggs early in the season.

A simple way for Maryland turkey growers to capitalize on this potential market for early season hatching eggs would be to put their breeding stock under artificial lights. Preferably, early hatched poults of medium size should be selected for the breeding pens before the flock is culled for the holiday season.

Housing the breeding females is desirable and about one month before hatching eggs are wanted the artificial lights should be turned on one-half hour before daylight and one-half hour earlier each succeeding morning until 4 a. m. is reached. Toms to be used as breeders should be "lighted" about one month before the females. Feed should be available and water heaters should be used if there is a possibility, that the water will be frozen early in the morning.

All lighting equipment should be well protected, or it may be damaged by the birds. The reflector should deflect the light on the birds on the roosts, and on the feeders and waterers. One 50-watt lamp is sufficient to do the job for a pen of 15 females and a reliable alarm clock or time switch will be found satisfactory to turn the lights on.—*Dr. Morley A. Jull, University of Maryland.*

Poultry Pathological Laboratories

Poultrymen who are puzzled by poultry disease problems might well make use of the diagnostic service provided by the State Live Stock Sanitary Service. Pathological Laboratories are located at College Park, Baltimore, Centerville, and Salisbury. Diagnostic service is furnished without direct cost to the poultryman.

In submitting diseased specimens for diagnosis observe the following suggestions: 1. Select specimens which are typical of the flock condition. 2. Badly affected or fresh dead birds are desirable. 3. If specimens are sent by mail, a letter with stamped envelope should be attached to the shipment. 4. Prompt delivery is important to prevent decomposition of specimens. 5. Give the following information: Name and address, date, breed, age, number in affected group, number lost, number sick, when disease started, symptoms noticed, medicinal or other treatment used, management practices or other remarks which might be valuable.

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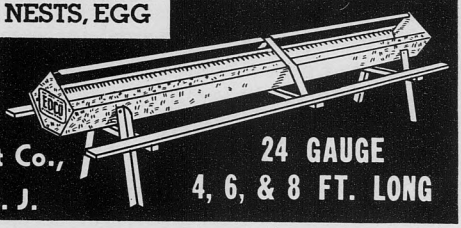

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Washington, D. C.

Neppco Starting Strong Program

POULTRYMEN are going to receive greater help and protection from the Northeastern Poultry Producers Council. Actually there is no organization of its kind that is in a better position to do a practical job for the industry.

The important step in the recent reorganization of the Council was the adoption of a new constitution and by-laws which establishes NEPPCO as the parent organization for each branch of the industry. The merger with the cooperatives involved only one specialized activity —namely cooperative marketing.

With one strong organization, many more valuable contacts may be made and when one branch wishes to take action the influence of the parent body can be far-reaching. Fewer but stronger organizations is a sound procedure.

The program for the coming year includes the following major activities which will have an influence on Maryland's poultry industry:

1. *New York City Live Poultry Terminal*—Assist with the final development of the live poultry terminal. The goal is to have the terminal in operation by the late spring of 1941.
2. *Consumer Education*—Cooperate with individual states, the New England Fresh Egg Institute and the National Poultry and Egg Board in a program of consumer education. Encourage proper investigations, surveys, etc., to determine consumer demands, study the effects of regulatory policies, and promote additional research on egg and poultry meat quality.
3. *The Broiler Industry.* Determine the extent of the broiler industry in each northeastern state, seasonable production, type of broilers produced, and methods of selling. With the use of these facts work with a committee in developing a sound program for the broiler industry meanwhile assist with any urgent problems confronting the broiler producers.
4. *State and National Legislation*—Assemble a complete record of all state laws pertaining to the poultry industry. Assist those poultrymen wishing to enact sound legislation for their industry, and work toward uniform laws insofar as is practical for each state.

   Assist in the enactment of national legislation which will be of benefit to the poultry industry.
5. *Cooperative Marketing*—Work with all cooperative egg and poultry marketing organizations to develop additional outlets for their products, disseminate information among the organizations which will add to their efficient operation, assist the division of cooperatives in carrying forward its program of activities and otherwise represent the organization as directed by their executive committee.
6. *Producer Buying Cooperatives*—Secure the names and locations of all producer buying cooperative organizations. Develop a program which will be of assistance to these groups through purchasing, etc.
7. *Poultry Dressing Operations*—Promote a continuance of the survey of poultry dressing plants made recently by the United States Department of Agriculture. Promote any additional research necessary for determining a sound policy for cooperatives wishing to enter the business of dressing poultry. Provide the cooperatives with the facts now available.
8. *Poultry Disease Control*—Through a properly qualified committee deter-

mine the seriousness of each poultry disease and parasite problem. Cooperate with state and federal agencies to have a sound research program started in an effort to determine suitable control measures.

9. *NEPPCO POULTRY Industry Exposition and Meetings*—Stage the annual NEPPO Poultry Industry Exposition in the best interests of the poultry industry of the northeast.

   Conduct such meetings and conferences to deal with regional problems, and assist in promoting the meetings of state poultry associations. Conduct meetings of the Executive Committee, Standing Committees and the Board of Directors to efficiently carry on the activities of the Council.

10. *Publish NEPPCO NEWS*—Publish at least six issues of the NEPPCO NEWS in order to inform the members about the activities of the Council, to present the results obtained and to create a close working relationship among all states.

In addition the Council is preparing to work on specialized problems such as turkey promotional and identification programs, hatchery problems, impressing farm loan agencies with the true needs of the poultryman, and assisting on new problems which will undoubtedly arise as a result of the defense program.

The Council's financial condition is satisfactory, and therefore it will be possible to actually go to work. Cooperation received from the states, their leaders and their industry will determine the extent of its success.

Marketing of Poultry in Maryland

By JAMES W. STEVENS
Stevens Brothers, Baltimore, Maryland
President National Poultry, Butter and Egg Ass'n.

(Presented at the Poultry Products Grading and Marketing School Sept. 13, 1940)

Marketing of poultry in Maryland, especially Baltimore, is peculiarly different as compared to other large cities in the United States, because about 90% of all the poultry arrives alive, is sold, and then slaughtered by local poultry jobbers, retailers, market men, and grocery stores. The balance, around 10%, is dry picked, Western-boxed packed poultry, and is sold mostly to restaurants, hotels and institutions.

I have often been asked by large Western poultry dressers and packers how much capital is required for a person living in the city to go into the poultry business. I told them about $9.00, and if the person has credit, it only costs him about 75c. They are astonished, as the Western operator often has $50,000 to $100,000 invested in buildings, cold storage plants, and equipment, and with this large overhead, it has been impossible during the last ten to fifteen years to make a profit.

Explaining why it only takes $9.00 for a person in the city to go into the poultry business, one coop of chickens can be purchased for seven or eight dollars by a retailer. He takes this coop of poultry to his grocery store, purchases a large bucket or tub for fifty cents in which to boil water, and uses twenty-five cents worth of wood or gas to heat the water in order to scald a chicken and dress it for a customer.

In Baltimore, hundreds of small grocery stores carry this meagre equipment to kill and dress live poultry. Is it any wonder that a number of large Western poultry operators can not make a profit? Certainly there are some large local

poultry slaughter houses that have more expensive equipment, but even this amounts to only a few hundred dollars, which includes a hot water boiler and several concrete scalding and cooling vats for poultry.

Then, too, during the last ten to fifteen years, an immense poultry-raising industry has developed on the Eastern Shore of Maryland and Delaware. Large dressing plants have been built, and much of this poultry is dry-picked and shipped to northern markets.

About 40% is shipped alive, some coming to the Baltimore and Washington markets. You would be surprised to know that some of our poultry is shipped in carload lots to the Chicago market. Very little of this Eastern Shore dry-picked poultry is sold in Maryland, because for years the Maryland housewife has demanded that the poultry she purchases be fresh-killed and hard-scalded, and she will not buy dry-picked or semi-scalded poultry.

A large chain store in Baltimore, realizing the desire of the Maryland housewife, has developed a tremendous business, and demand, for this fresh-killed, hard-scalded poultry. This demand is now being developed by their stores in Pennsylvania, Delaware, and New Jersey. Quantities of poultry are being shipped daily out of Baltimore to these branch houses. Furthermore, this chain store has also developed a demand for cut-up fresh poultry. A housewife, or small family, who cannot afford to buy a whole chicken can now purchase a half, or a quarter of a chicken or even a breast or leg. Turkeys are purchased the same way.

During the last several years, a few concerns in the United States have been specializing in canning chicken. A whole chicken or a half chicken, or even boned chicken is cooked and placed in cans ready to heat and serve. This is a very convenient method for the modern housekeeper, although this chicken is more expensive and could hardly be classed as a dangerous competitor to fresh killed poultry.

Poultry is either consigned or purchased at a certain price delivered, agreed upon previously by the seller and purchaser. About 65% of the poultry sold on the Baltimore market is purchased, and 35 per cent is consigned. The prevailing rate of commission in Baltimore for selling poultry is 7%.

The average producer, after he sells his poultry to a wholesaler in the city, thinks the wholesaler makes a fat profit. This is far from true; but if the producer thinks this, he has the alternative of consigning his poultry to a reputable wholesaler. His poultry is then sold at the prevailing market prices, and the producer receives his sales less the commission charge. Many producers and shippers like this method of marketing their poultry, and I highly recommend it, as it keeps the producers and shippers satisfied.

There has been for years an unfair practice of producers, shippers, and truckers to take advantage of the wholesaler or purchaser of their live poultry. Before arriving on the market, the shipper stops his truck several miles out of town, or even the night before, and stuffs his birds with wet feed. The birds craws are filled with feed costing about two cents per pound, then are quickly taken to the wholesaler and sold at prices agreed upon the day before, which might be from fifteen to twenty cents per pound. Before the wholesaler can sell this heavy fed poultry, he must wait until the majority of the feed in out of the craw and consequently, out of the bird, taking severe losses in weight which means dollars. Some method or penalty should be imposed upon the violator of tactics such as this. Small producers of poultry often feed their poultry heavy with grain, after it has been cooped for transportation to market. Such birds arrive on the market with well-filled craws to which buyers object, with the result that such poultry is discounted by the buyers, through the buyers paying several cents below the market at time of

arrival, or letting the poultry sit on the market until the feed has disappeared out of the craw. Consequently the shipper is the loser, because the bird has to draw on the moisture from its own body to digest the dry grain that was fed after the poultry was cooped, resulting in lost weight.

List of Dressing Poultry Plants

New England—

Jos. Chuckrow's Sons, Inc., Troy, N. Y.
New Hampshire Poultry & Egg Co., Manchester, N. H.
Sunnybrook, Inc., Saco, Maine
Acme Dressed Poultry, Inc., North Andover, Mass.
New England Dressed Poultry Co., North Woburn, Mass.
Max Joseph's Poultry Market, Inc., Franklin, Mass.
Furman & Co., Inc., Canton, Mass.
Richmond Live Poultry Co., Boston, Mass.
Levin Bros. Live & Dressed Poultry Co., Inc., Hartford, Conn.

New Jersey—

Cranbury Feed, Poultry & Hatchery, Inc., Cranbury, N. J.
Barish & Co., Vineland, N. J.

Philadelphia, Pa.—

Risser & Rabinowitz, Inc.

Delaware-Maryland—

H. & H. Poultry Co., Inc., Selbyville, Del.
Millsboro Poultry Co., Millsboro, Del.
Eagle Poultry Co., Frankford, Del.
Agar Poultry Co., Borlin, Md.
Swift & Co., Salisbury, Md.

Virginia—

City Produce Exchange, Harrisonburg, Va.
Rockingham Poultry Marketing Cooperative, Inc., Broadway, Va.
(Not yet in production)

The Maryland State Hatchery Association has developed a strong program looking toward the improvement of the hatchery and baby chick industry of the State and is interested in breed improvement and mutual relations between the hatchery and flock owner. The Association is carrying on an active educational campaign among all hatchery operators.

CLAUDE TRUSLOW,
President

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THE MARYLAND STATE POULTRY COUNCIL
COMMITTEE ON PUBLICATION

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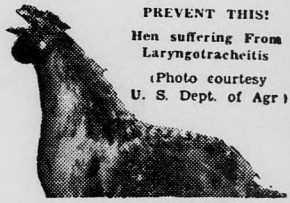

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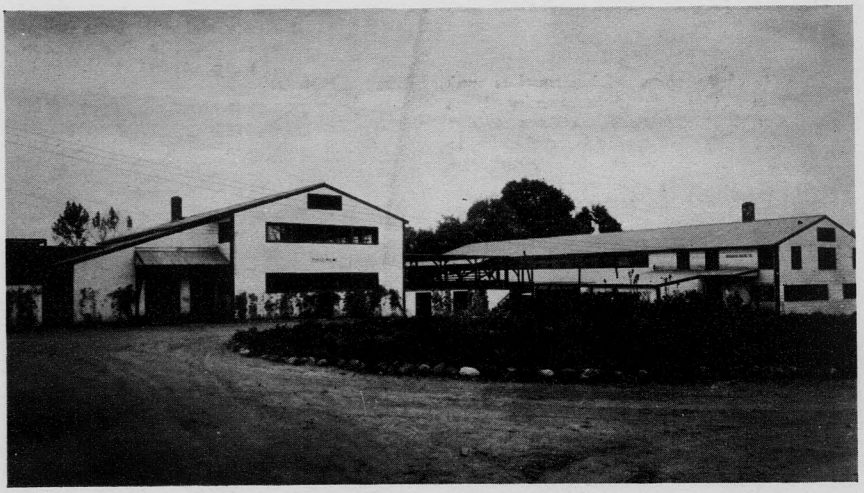

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